APPENDIX B FIELD DATA



-	
\mathcal{L}	

BOM					2.2	MSIS FIE	FIELD DATA SHEET	A SHEET	ت			/			
Plant:	AK M.	Medletan		Sampl	- 1) be	In		Nozzle D:	D: 0156	6 Thermo	ouple#	3-40	
Sampling Location:	Location:	3	- 1		Pbar: 30.20				I	Assume		<u>ひ</u> Filter #:	\cap	3897	
Fretest Leak Rate: 0.09 cfn Pretest Leak Rate: 0.09 cfn Pretest I eak Check: Ditot	ser: [-] ak Rate: 6	(27. L	Kun Number: $\frac{1}{2} = \frac{1}{2} = $		Probe Length/Type:		7 4	Pitot#: 13-14P		Meter Box #: Post-Test Leal Post-Test I eal	ox #: St Leak Rate	Nost-Test Leak Rate: 2.003 cfm @ Dost-Test I eak Check: Pitot: 1		$\frac{\Delta \Pi(G)}{2}$ in.Hg. $\frac{1}{2}$	からなる
Traverse	Sampling	Clock	Gas Meter	Velocity	HV		Stack	Temperature EF	-	1 200 1	A mark	Dry Gas Met	ter Temp	7 8	·
Foint Number	Time	Тте	Reading	Head	Desired	Actual	Temp (Ts)	Probe		Impinger Temp. %	тих. Тетр.	Inlet	Outlet	vacuum (in. Hg)	
0	0	950	196,500												
	3:TH	126-29	19.616	2,8	<u>, , , , , , , , , , , , , , , , , , , </u>	7.7	£	250	257	2	NA	Œ	63		
7	6:32	Sh-5h0	200,875	C	1.6	9.1	НОІ	248	$\overline{\chi}$	_	u _{m.co.}	65	E		
М	9.42	(12-05)	203.034	25	Ý	ř	1.12	250	260	09		99	99	_	
7.	12:55	1116-19	255278	28	i,	2	3	267	3G	09		<u>Š</u>	67	,	
5	61:31	1136-39	27614	23	9	3	Š	22	265	19		63	63)	
9	19:38	161-54	209.998	3,2	19	۵.	122	255	190	62	<i></i>	Z	b9		
	22.56	1201-04	212.429	3.3). S	2,0		261	263	19		72	20)	
2	26:14	HX-123	968717	3.4	20	20	15	263	265	62		73	72	. }	
Μ	27:29	14-8221	217.462	3,2	6.	63	122	me	2992	29		ZH.	23	•	
. T	32.48	1557-1309	তাত্তত ত	9.3	2.0	20	119	292	3,65	P9		15	52	·—	1
5	8% 7c	1316-14	222.756	2.2	3,2	Q.Q	120	268	264	<i>O</i> 3		3%	92	1.5	
9	36.38	13x-3	225.374	3.1	2,2	2.2	35	150	205	0,		77	<i>CL</i>	<u>7.</u>	
)	42;42	135054	227.93H	9.7	2.2	20	127	365	262	60		77	- 22	[.5]	
7	76.05	1459-4Q	330.58 (3.4	2.0	86	128	SP	24B	61		77	12		
2	41:19	141-54	233.065	3.4	2.0	2,0	7	266	253	62		78	77		
T	Szirli	01-205	235,64H	3.4	C.	20	द्य	265	784	63		X	X		
r	55:5H	15.24 -25.	238.197	3.6	<u>%</u>	2	$\overline{\mathcal{R}}$	282	265	62		28	28		
e	Ria	1542.45	240.868	3.7	رد دو	2,2	121	262	266	63		78	23	(5)	
,	82.38	559-1603	243.702	27	2.2	28	33	361	787	E.		R	22	P.	
·	25:53	156-P	246.360	3.6	₹	2	ાઝ	F,	264	63		78	28	7.	
οN	क्षः।3	633-37	248324	35	હેં	٠;	9 %	38	\$\$	S.		28	28	- <u>-</u>	
ቷ	72:33	651-55	251.633	んな	~	ĊŸ	2	365	23	63	•	×	Ø	e-mutation.	
n	76:20	1206-13	254.66°	r,	2.1	7.	¥	36	266	63		78	78		
ė	J. 39	17.5-18	257.368	24	0.7	0.0	100	362	263	\mathcal{C}		78	80		
	32:56	1738-41	260030	č, Ž,¢	å	4	150	22	ડ્લ	S		28	R		
16xx - 26	260.030	$\Delta V m = 1$		$= \overline{dV}$	$\overline{\overline{A}} = \overline{\overline{H}}$	$T_S =$		1			Tm =			•	N.
)	4Vm	du pysytt=	-63,530												

#: <u>T3-4P</u> - 3297 H@: 1906 in.Hg. Orsat:	Pump Vacuum (in. Hg)		2	7	7	2	2	7	7			and the state of t					,			960051	
Thermocouple #: 1 Filter #: 22 205 Y: 2,443 AH@: 1,002 cfm @ b in Pitot: 1 Orsa	$\begin{array}{c c} \text{Dry Gas Meter Temp.} \\ \hline \text{Tm} \\ \hline \text{Inlet} & \text{Outlet} \end{array}$		72	75	11	16	Ī	20	20												
1. 1.4 受	Dry Gas M T Inlet		7.1	1.	71	71	U	20	20											Tm = 74	
Nozzle ID: 0:156 Assumed Bws: 2.5 Meter Box #: 5 Post-Test Leak Rate Post-Test Leak Chec	Aux. Temp.		7/4						^											I	
Nozzle ID: Assumed B: Meter Box: Post-Test L. Post-Test L.	Impinger Temp. °F		e	トゥ	19	01	79	79	19												
	Temperature EF Probe Filter		258	266	265	997	268	263	267												
: CJ t#: +3-4P 0.6441	Temper		252	256	25b	260	2 tolo	151	392							****					
erator -1.1 CEM CEM K:	Stack Temp (Ts)		83	88	93	14	99	16	2 P											1	
(5 Ps O ₂ O ₂ Type: 3	H Actual		2.2	1.2	2.1	2.1	2.0	2. (7 - 1		-								1,1	2.01 $Ts=$	
e Type: $\frac{M3.6}{30.20}$ Pbar: $\frac{30.20}{\text{Ce}_{M}}$ CO ₂ : $\frac{\text{Ce}_{M}}{\text{Probe Length/Type}}$ Stack Diameter:	ΔH Desired		2.2	2.1	2.1	2.1	2.0	1.7	2-1											$=\overline{M}\Delta$	
Sample	Velocity Head		35	3.4	3.4	3.4	3.3	3.4	2.5											$\sqrt{\Delta p} = 1.8265$	Sp = 2.34
Bankson Speck 2 - Date: 9/12/16 cfm@10 in.Hg.	Gas Meter Reading	260,130	262.765	265.475	168.287	271.025	173.657	216.361	279.088											82,488	
Beginson	Clock Time	,,	2217-1172	2233 - 2256	132.897 3422 4422	3027-5082	72.12 - 57.57	345-245	0003-0007											$\Delta Vm = 1$	
Plant: Ak A Allekoun Sampling Location: Baghage Grack Run Number: P-315-1 Date: 9/12/11/1 Pretest Leak Rate: 011 cfm @ 10 in.Hg. Pretest Leak Check: Pitot: Y Orsat: -	Sampling Time	4	86:13 2	89:31	2 95:26	96:13	79:31	107:49	106:15 0												
Plant:	Traverse Point Number	0		~	3	T	r	ی	+						TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT						

Sample Loc Train Prepa Sample Rec	K Madletan 8/16 S cation Pushi arer 182 covery Person M315	Bughouse	Sample Baro	מיש דייביר	\$3097 4 ~~.com
Filter	No. QZ		Sealed Sealed	 .	
Samples St	ored and Locked	rey load: 1 BALL		/ ALETONE	ITOLUEWE
	el Marked		Sealed		
Tim No	Contonts	Initial Vol		Weight (gra	ms)
Imp. No.	Contents	· (ml)	Initial	Final	Net
1	H20	100	756.0	756.0	0.0
2	H20	100	766.8	773.0	6.2
3		M15	665,4	666.9	1.5
4	Silia Gel	250	965,9	9:84.0	18.1
5					
6 ·					

Bus = 15%.

25.8

Sample Recovery Data-IvI5, doc

Total

Description of Impinger Catch:

SHEET	
DATA	
FIELD	

Plant: AK		Mid	- پ		Sample	ı	2	Operator:	B	5	Nozzle]	l d		Thermocouple#: 4	43-46	
Sampling Location: 65	ocation: 150	3	╗		e In	Pbar: 30.15					Assumed Bws:		三 	# (P.2%)	9	
Run Number: 1-315-2	r. 1-315-2	2 - 5	'	Date: 9/13/16)2: CEM		02: CEM			Meter Box #:	b #xo	ζ. ζ.	$^{\Lambda m H}$	306	4
Pretest Leak Rate: 🐠 cfm Pretest Leak Check: Pitot: 🗸	k Rate: • 🕬 c Check: Pitc	<u>لَّ</u> ظُ	cfm Z:	@ (e in.Hg.) 14 Orsat: 1	. Pro	Probe Length/Type: Stack Diameter:	/V '	Pit K	の作:ナス・プログライング	<u> </u>	Post-Te	st Eeak Ra St Leak Cl	Post-Test Leak Rate: 2.203 cfm @ Post-Test Leak Check: Pitot: _t	W	~ ∶ Hg. `	12,50ft
Traverse Sampling C	Sampling				Velocity	Нγ		ack	Temperature EF	hure EF	Tuninger	Aux	Dry Gas M	ter Temp	Pump	
			TIME	Reading	Head	Desired	Actual	Temp (Ts)	Probe	Filter	Temp. F	Temp.	Inlet	Outlet	(in. Hg)	
0			1339	3K,236												
3:13			1331-112	281.52	2.7	Ē	ė	120	761	395	65	グイチ	Ŕ	2		
2 63		· Charge of	149-32	365.908	らん	ž	Ñ	130	360	592	65	_	51	32		
4.56			181-13	286.222	2.6	5.	1,7	131	261	7 <i>G</i> H	64	_	36	92		
7 13,15	13,15		1476-1500	288.446	si Si	(5	(,5	129	366	35	E		22	22	-	
5 16:32	16:32		19-12	320.905	3.1	1	60	128	3/2	261	09		82	22		
6 19.51	PV	-	532.36	293.390	3.1	8,1	00	132	263	70F	60		78	78		
33:15	33:55		1650-53	295.897	5.0	80	1:8	130	265	266	09		K	78		
2 26:36	36:38		30-509	ત્રજ્યમા	3.4	20	0. 0.	128	263	78.7 78.7	919	•	K	78	(5)	
3 28:56	36.36		1500 ZH	300,938	્ જ્	6	<u>a:</u>	135	764	26E	81		Z	К	Ñ	
y 33:10	33.10		141-15	363.412	3.4	5,5	· 6.	133	79%	1365/	25		K	R	5	
36,38	36.38	- 1	1651-5H	35.872	33	σ,	2.	136	É	265	3	_	K	78	7	
6 39:49	39:4		120-03	308.405	3,2	<u>0.</u>	6.9	139	255	262	63	_	K	28	[5]	
43.05	43.0	In	129-12	310.977	3.6	3	7.	12.	22	265	وا		K	12	ř	
2 46126	7612	ı	122-2H	313.507	3,3	·6')	(3	<u>X</u>	3E	364	0,9		×	77	1.5	
J. HE. HE.	五		1720-33	316.055	3.3	ل ز	V .1	129	76	266	59	-	78	22	13,	
y 53.00	53:01		2232 - 7236	319.121	36	7.7	22	95	707	266	53		11	70	4	
5 56.28	56.28		2244-2248	321.954	3. ¢	7.7	2.2	a_ a_	FS2	797	Se		73	72	7	
59:43	19:43		2303-23°C	324.644	3.5	2. (2.1	105	200	260	56		7	73	7	
(2:58	5:70	ω OCU	1511-2326	327.240	3.1	2.1	7.1	109	200	267	N.T.		75	72	7	
51:99 6	51:90		2341-2345	529.916	35	2.(7.1	ЬП	757	264	50		Je	16	7	
3 69.37	9:37		L000-000	332.601	3.4	2.0	2.0	(16	726	265	25		11	76	7	
12:27 H	12:21		555-700-6100	335.344	35	2.1	1.2	011	261	262	54	·	77	77	2	
5 76:18	76:18		H-00-0H00	337.129	3.5	171	7.1	1	760	267	55		77	77	2	
04:40	79:40		517.015 340.612	3-10-615	35	2.1	2-1	112	200	200	5£		11	77	7	
83.01	\$3,01		SHS PIIO - 4110	343.315	3. t	2.i	1.7		260	764	55		78	177	7	
		i	$\Delta V m =$		$= d\sqrt{\Lambda}$	$=\overline{H\Delta}$	$=\underline{SL}$					Tm	= 1	I	M	
•																

61/m Day Shift = 36.767

S

Plant: A	Plant: AK Madle ton	Stann Barbaro	Chalis	Sampl	10	John Park	Operator:	E2/c1	<u>, , </u>	Nozzle I	Nozzle ID: 0.156 Assumed Bws: 2.5	7 Thermo	Thermocouple #: T3-4/F	T3-40	
Run Number: P-: Pretest Leak Rate: Pretest Leak Check	Run Number: P-315-27 Pretest Leak Rate: cf Pretest Leak Check: Pitot:	Date in @	1 18		ロビア	_r\		# 72-12		Meter Bo Post-Tes	ox#: 5 t Leak Ra t Leak Ch	Meter Box #: 5 Y: 0.493 AH@: 1.906 Post-Test Leak Rate: 0.003 cfm @ 6 in.Hg. Post-Test Leak Check: Pitot: 1/1 Orsat: MA	FINE OF THE OTHER OF THE OTHER OF THE OTHER OF THE OTHER OTH	9: 1.93 in.Hg.	
Traverse Point Number	Sampling Time		Gas Meter Reading	Velocity Head	AH	1	stack np (Ts	Temperature EF	ure EF	Impinger Term or	Aux. Temn	Dry Gas M	Dry Gas Meter Temp. Tm	Pump Vacuum	
0			A THE RESIDENCE OF THE PARTY OF					20017		Temp. T		Inter		(in. rig)	
CK	\$6:\$5	S 610-5840	346.007	3.4	2.1	7-7	100	226	26.3	60	7 4 5	77		2	
3		E145-0148 3.	348.666	3.3	2.0	2.0	7	267	200	5.2	, 1000	7	17	2	
T	90:26	S 8 0570-1279	356.34S	3.4	7-1	1.7	to)	957	492	n		76	70	7	
K	96:29	S 10.80-1570	211.458	3.4	7.7	21	901	265	264	62		76	36	7	
<i>c.</i> 0	99:45	0308-0311 35	356.820	3,6	2.2	2.2	901	227	266	00		76	10	7	
)	103:15	524-03213	359.709	3.4	2.1	2.1		707	263	9	,	76	76	2	
													,		
***************************************		_													
A PER PART A PER															
	٧	$\Delta Vm = 80.346$. 1	$\sqrt{\Delta p} = 1.8092$	$\overline{I} = \overline{H \wedge I}$	1.96 Ts=	97)				$\overline{Tm} =$	- 77		1502 (00.7	17
				16 = 3.28	8							•		,	H H

Diant A	K Mide	lletown		Run No.	315-2	
Date 9/14	116	Sample Box No.		Tob No. 7	0074.0172	_ _
Sample Lo	cation Puch.	Bantiple Box No.		Filter No. α		
Train Prena	erer 27)	Sample			
Sample Re	covery Person	S	Ba	rometer No.	we.com	
Comments	<u>M315</u>		E	Balance No.	2	
			,			
Front Half	0 315-2					
Acetoņe	GRONT 1/2	Liquid Level Marked		··· — Appendix and in the second		
Container I	NO. ALETOME	Level Marked _	Sealed _			
	FRONT 1/2 TOLVENE					
Filter	02-5	2100	G 1 1	/	•	
Container I	No. <u>QC</u>		Sealed _			
Description	of Filter	light and	lacla			_
Description		J 97	1000-1			
Samples St	ored and Locke	d /				•
						
Back Half/	Moisture	- 0	/		EXAME RINSE	
Container 1	No. P-315	-Z BACK	1/2 H20/	ALETONE / H	EXAME FUNCE	~ — -
T	186 1 1		7			
Liquid Lev	el Marked		Sealed _			
		Initial Vol		Weight (gra	ms)	
Imp. No.	Contents	C 15	Initial	Final	Net	
1	H-0		 	159-1	70	
	HEO	100	1553	<u> </u>	3.8	
2	M20	100	762.6	768.0	5.4	
3	United States of the States of		665.3	666.6	[-]	
4	54	250	984.0	1004.4	20.4	
5						
6	- "					/_ /_ A/
7	Total				30.9	JM
	•		/			
Description	of Impinger Ca	itch:	Clear		· · · · · · · · · · · · · · · · · · ·	0-1
						70 1 -
					ا ہِ	ι. Ο .
	n e <mark>M</mark> age				Bus=	L, O .

Operator: Ps: - 1.0 Pbar: 30, 2 Sample Type: Bahouse Glock 2

人となると

Plant: AK

Sampling Location:

02: CEM 21/2L Pitot#: T3-4F Probe Length/Type: 3 6L Stack Diameter: 35,5 CO2: CEM

Run Number: 2.5.7.3 Date: 9/14/16
Pretest Leak Rate: 0.29/1 cfm @ 15 in.Hg.
Pretest Leak Check; Pitot: 12 Orsat:

Sin.Hg. Shop of Orest: Sopsoft Y: 2993 AHQ: 1.906 Thermocouple #: \(\tau \) Filter #: 92 3.03 Post-Test Leak Rate: 9,001 cfm @ 5 Post-Test Leak Check: Pitot: 1 PAGE 10F2 Nozzle ID: 156 Assumed Bws: 25 Meter Box#: <

)	Pump	(in. Hg)		ત	લ	K	ч	K	2	7	7	7	2	7	2	N	2	7	7	2	2	2	~	~	~	2	7	
	iter Temp.	Outlet		30	80	Š	- J.	Ø	7.8	7.5	73	73	73	73	73	73	77	73	73	72	75	71	12	12	7 (7.	١) ك	
	Dry Gas Meter Temp. Tm	Inlet		80	ō	K	, 8 <u>5</u>	N	72	72	73	73	73	72	73	73	73		72	75	75	71	12	11		26	75	 - - -
	Aux.	Temp.		2/2							,	- A.V.																Tm =
	Impinger	Temp. T		65	ŝ	S	61	3	<u>ک</u>	54	56	51	09	58	2	59	19	28	60	60	10	10	59	29	09	29	રું	
	Temperature EF	Filter		281	364	263	K.K.	46	266	265	265	208	497	206	202	797	205	302	263	264	265	492	265	266	264	707	292	
	Temper	Probe		22	4SH	257	255	257	264	260	259	125 į	253	255	266	261	260	259	256	222	258	257	260	252	257	1259	957	
	Stack	Temp (Ts)		ष	75	88	127	129	44	107	801	113	/ 11	011	101			<i>ا ا</i> ا	104	107	105	کارہ	97	66	86	001	Lb	11
į	- -	Actual		1.7	1,6	1,	1.7	<u>.</u> أ	2.7	2.1	2.1	6.9	2.0	2.0	1.2	2	2.0	2.0	2.1	2.1	2-1	7.7	7.1	2.7	1.7	0.2	2.1	$\overline{Ts} =$
	ΗV	Desired		1.7	9	1.7	7	ف ٔ	17	2.1	2.1	6.9	2.0	2.0 /	21	2-(7.0	2.0	21	2.	7 [7.7	2.1	2.2	1-7	2.0	21	$AH = \frac{1}{2}$
	Velocity	Head		2,8	2,7	2.9	2,8	2.7	3.6	3.5	3.5	3.2	34	3.4	34	3.5	3.4	3.3	3.4	3.4	3.4	3.5	3.4	3.6	3.4	3. 3	3.4	$\sqrt{\Lambda p} = \frac{1}{\sqrt{\Lambda v}}$
	Gas Meter	Reading	360.982	362285	364,697	362,009	362.341	371.650	374.665	377.368	380.000	82 60 J	285.247	698 282	340.500	393.145	SLL565 thob-1809	318.386	108 ach	103.629	014-0148 406. 100	605 JUJ	411.433	414111	416.662	419.239	421.873	
	Clock		1636	1635-38	1416-52	30-601	1722-25	125-38	1221 2224	2251-2234	24-248	609 788 100-5051	1212-1316 385. 247	698-28-21-52-24-57	1,000-000	[] \$700-b00	efft-gout	0010-1500	7 2210-9110	0155-0138 403 629	8410-HIC	2180-8180	8%0-5%0	03-13-0547	038-036	Offi prai	511.0 - 011.0	$\Delta Vm = $
	Sampling	Time	0	347	OH:9	9:29	(3:13	16:28	20:00	12:57	26:40	75:67	33:08	36:22	39:39	15:24	46:13	49:26	_	55.54		62:21		68.54	l	75:16	78.31	•
		Number	0	,			, n	7 5	9		α	\sim	2	5	0		7	cv.	7	8	9		d	n	T	a)	9	
	(5.	1/1	- 3 2 2	ار ا ا ای	9 1L,	ا ک	はある	Į	l	I	<u>I</u>	I	l	l	1	<u> </u>	<u> </u>	<u> </u>)	<u> </u>	<u> </u>	<u>i</u>	<u> </u>	<u> </u>	<u> </u>	1	

Plant: AK Middletown Sampling Location: Bagrouse Steek 2

FIELD DATA SHEET

EZ/CJ Operator:

Ps: Sample Type: ~315 Pbar: 32,21

CO₂: CEM O₂: CEM
Probe Length/Type: 3.6L Pitot#: T3-4P
Stack Diameter: 35.5" K: O.G.44!

PACE ZOFZ

Meter Box #: 5 Y: 0.893 AH@: 1.926 Post-Test Leak Rate: 0.221 cfm @ 9 in.Hg. Post-Test Leak Check: Pitot: 12 Orsat: -Nozzle ID: 0.166 Thermocouple #: 73-48 Assumed Bws: 2.5 Filter #: QZ-3102

				N. V.												
3657 :	sat:	Pump	(in. Hg)		2	7	2	7	7	2	2.5	2.5				
Meter Box #: 5 Y: 0.843 AH@: 1.926 Post-Test I est Rate: 0.231 oftn @ 9 in Hr	Post-Test Leak Check: Pitot: 12 Orsat: -	Dry Gas Meter Temp. Tm	Outlet		11	17	1 2	1 2	71	70	62	8				
Y: 0,993 A	eck: Pitot:	Dry Gas M	Inlet		72	75	11) (7 (7	29	68				
30x #; 7	st Leak Cl	Attx.	Temp,		4)~											
Meter I	Post-Te	Impinger	Temp. T		90	23	28	62	67	90	225	52				
<i>Q</i> ,	⊢ .	Temperature EF	Filter		266	266	264	265	767	267	365	265	,	ħ.		
1 1 1		Temper	Probe		260	152	256	254	707	257	262	25%				
02: CEM	K: 0.644	Stack	Temp (Is)		47	94	98	701	26	95	92	107				
0 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	ter: 35.6	HΔ	Actual		0-7	1.2	1.7	2.0	2.0	20	なな	2,2				
CO ₂ : CEM O ₂ : CEM Prohe I enoth/Time: 3// Pitot#: 72-UD	Stack Diameter: 35,5"	7	Desired		0-7	21	2.1	2.0	2.0	1, C	LŠ SŠ	4.4				
•	S. I	Velocity	Flead		3.8	Z, 1	3.5	3.3	5.3	3.2	3,6	3.6	,			
Run Number: 2.3/5-3 Date: 1/14-15/16	Pretest Leak Check: Pitot: 1 Orsat: 1	Gas Meter	Reading		2411-0424.515	84.57 6435-0436 427.113	059.924 429.650	432.161	1 LS + 6 h 8250-5750	0525-0578 457.070	154-37 439.752	1 अंध पर पेपर, पिंड				
D 2-3	Pitot:	Clock			1417-0-122	1433 -0436	sko-15x	120- 8050	8252-5756	555-0518	52-37	अहं पर				
or: 7-36	ık Check:	Sampling	Time		81:44	84.57	88.09	12:16	27:16	97.59	150:001	104: (T				
Run Number: P-315-3 Date	Pretest Leak Check: Pitot: 12 Orsat:	Traverse	~	0		7	W	T	ıs	0		K	3			
£ 9	7 2	[/7 [/7	کر و	10 10 10	27	ma	N	جر ج	, O,		1 × 3	check	€ 6 6	437.22 L	L	·
		77	I	1)	7 6	e)					3)	Ū	Ų	pal.		

 $\Delta Vm = 81.234 \sqrt{\Delta p} = 1.8195 \Delta H = 201 Ts = 106$

Tm = 73

Sp: 275-33156

Sample Recovery Data-Ms.doc

Plant AV	Middletoni	·			P-315-3	
Date 9/10	1.116 S	ample Box No. 🛭 S	B-0	Job No.	050074.000 QZ-3102	2_
Sample Loc	cation Pust	ving Baghors BF	<u>e-</u>	Filter No	DZ-3102	
Train Prepa	rer F2	<i>J</i>	Sample	Head No	54-7	
Sample Rec	covery Person _	BF	Baro	ometer No	Twc.com	
Comments		1.5	Ba	dance No	FB-2	
E-o-t TIo16						٠
Front Half		Tionid				
Container 1	NO P-315-3	Liquid Level Marked	Sealed		•	
OGHZGHIOZ I	,0,					
Filter			•			
Container 1	No. <u>Q7 -</u>	3102	Sealed			
			~ *			
Description	of Filter		no visible	(oading		
Carrollar Ct	ored and I ocke	1	7			
gambies 91	UIGU ALIG LACAC					
Back Half/	Moisture				•	
Container l	No.	wA.				
Liquid Lev	el Marked	Na	Sealed	NA		
		<u> </u>				
Trin No	Contents	Initial Vol		Weight (
		·· (ml)	Initial	Final	Net	
1	H20	100	774.6	767.0	-7,6	
2 ·	H20	100	78.3	786.7	5.4	
3	-		6699	663.1	,	
4	Silica Gel	1	942.0	970,9	1	
5		J				
6 .						
<u> </u>	rotal				28.9	
		<u> </u>		L	0081	
Description	n of Impinger Ca	ıtch	clear			
	- or marking or					

SHEET
S
ATA
Ã
FIELD

Sample Type: 316 MCE Operator: The Middleton

Plant:

CO₂: 3 C Probe Length/Type: 4 Stack Diameter: 6 Run Number: 6-415- 1 Date: 9-13-16 Sampling Location: (OMbushm Sauc Pretest Leak Rate: *** cfm @ 10 in.Hg.

Pretest Leak Check: Pitot: / Corsat:

02: 15 6 6 Pitot#: 15 B 30.30 Ps: - 6.80

Nozzle ID: 500 Thermocouple #: 75.8
Assumed Bws: 10 Filter #: Q2 3098 Meter Box #: 3 Y: 1.004 AH@: 1.89.
Post-Test Leak Rate: ____ cfm @ ____ in.Hg.
Post-Test Leak Check: Pitot: ____ Orsat: ____

	Ħ		1111				- 3			- 1			- 1				1	100	to the same	TING				0 11			
- 1	0.7	8				1		1				n l							iles,								
	Pump Vacuum	(in. Hg)		-	7	_	٦	\	\neg	~	۔	~	_	_	_	~	_	91	_	١	-		.—	-	_	_	_
	eter Temp. n	Outlet		62	n.	と	80	65	iole	es	00	6 3	20	72	23	75	75	76	21	77	18	28	10	79	100	90	3
	Dry Gas M	Inlet		たの	64	62	20	22	75	24	260	200	28	9	80		00 W	\$	84	80	Bas	E	80	' 1	00	87	80
	Aux.	Temp.		10 TJ	e V	20	s,	632														12					+
	Impinger	Temp. T		B	n	N.	N	スペ	55	27	80	60	63	64	(e)	62	62	10	61	62	29	29	62	62	64	62	6
×	tture EF	Filter		260	252	252	255	251	252	250	1221	151	249	250	250	244	255	249	152	250	250	248	245	245	248	250	250
	Tempera	Probe		260	240	246	252	251	252	249	25,	526	251	248	548	242	248	_	548	250	249	251	250	872	246	251	250
N	Stack	Temp (Ts)		251	361	365	350	220	374	376	380	355	352	355	358	364	366	N	274	379	186	349	350	351	354	358	360
•==	I	Actual		1.50	(2)	1.5	1.3	6.5	1.5	1.5	1.5	1.5	1.5	1.3	1.3	1.5	1.5	1.5	1.8	ing.	1.5	13	1.3	1.7	1.3	6.3	6.5
	ΔĒ	Desired		1.50	1.3	1.5	1.3	'v	6.5	1.5	1.51	1.5	1.5	1.3	67	10	13	1.51	125	1.5	1.8	1,3	1.3	1.3	1.3	12	i.5
	Velocity	Head		0.000	0.035	0.040	0.035	2.040	0,040	0000	0000	0,040	0.000	0.035	2400	0,040	0.000	0,000	0.0 %	0,000	0.040	0.035	0.035	0.035	0,035	0.00	0.040
75.973	Gas Meter	Reading	175.973	79.2	182,3	956	188.7	6	186	1861	201.6	00	2076	11.7	14.6	18, 4	220,9	/	1750	133.9	135, le	1220	240.5	1 43. P	46.	249,8	53.
	Clock		1005	-	1015/	10201	1025/	10701	1035 1	10401	1	0	1055			01/1	5 5111	1120	1124 0	1130	125 2	1140	1145	1150	1001	1200	1205 3
	Sampling	Time	0	7	70	12	ne	302			CA	75%	20	23	Se)	65/	3	52	CB	85	90	25	3	105	011	1.5	92/
	Traverse	Number	0	•	60	3	17	5	9	4	00	U	2)		2		4	3	7	S	9	1	4	0	0		B
•	175,973	Sampling Clock Gas Meter Velocity AH Stack Temperature EF Impinger Aux. Dry Gas Meter Temp.	Sampling Time Reading Head Desired Actual Temp (Ts) Probe Filter Temp. Temp. Temp (Ts) Probe Filter Temp. Temp Outlet Temp Outlet Dry Gas Meter Temp.	Sampling Time Reading Head Desired Actual 0 1005 1005 1005 1005 1005 1005 1005 1	Clock Gas Meter Velocity Fine Time Reading Fine Filter Filter Temp. Time Temp. Time Filter Temp. Time Temp. Time	Sampling Clock Gas Meter Velocity AH Stack Temp (Ts) Probe Filter Temp (Ts) Probe	Sampling Clock Gas Meter Velocity Head Desired Actual Time Time Reading Head Desired Actual Time T	Sampling Clock Gas Meter Velocity Head Desired Actual Temp (Ts) Probe Filter Temp. True Time Reading Time Reading Head Desired Actual Temp (Ts) Probe Filter Temp. True Temp. True	Time Clock Gas Meter Velocity AH Stack Temperature BF Impinger Aux. Dry Gas Meter Temp. Time Reading Head Desired Actual Temp (Ts) Probe Filter Temp. Temp.	Clock Gas Meter	195,973 195,973 Stack Temperature EF Impinger Aux. Dry Gas Meter Temp. Time Reading Head Desired Actual Temp (Ts) Probe Filter Temp. Temp. T	Sampling Clock 175,373 Clock Clock	Sampling Clock Gas Meter Velocity AH Stack Temperature BF Impinger Aux. Time Reading Head Desired Actual Temp (Ts) Probe Filter Temp. Temp	Sampling Clock Gas Meter Velocity Alf Stack Temperature BF Impinger Arm. Dry Gas Meter Temp. Time Reading Time Reading Time Reading Time Reading Time Reading Time Reading Time Temp Time Temp. Time Time Temp. Time Temp. Time Temp. Time Temp. Time Time	Sampling Clock Gas Meter Velocity AH Stack Temperature EF Impinger Aux. The Reading Head Desired Actual Temp(TS) Probe Filter Temp, F Temp. 5 1,010 177,273 0035 1.3 1.50 351 260 560 65 1.50 64 62 1.50 1.60 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.5	Sampling Clock Gas Meter Velocity AH Stack Temperature BF International Time Time Time Time Time Time Time Time	Sampling Clock Gas Meter Velocity AH Stack Temperature EF Impinger AW. Then Time Time Reading Head Desired Actual Temp (Is) Probe Filter Temp. T	Sampling Clock Gas Meter Velocity Aff Shack Temperature IFF Impinger Awa. Time Time Time Time Time Time Time Time	Sampling Clock Gas Meter Temporation Aff State Temporation BY Temporation By Clock Gas Meter	Sampling Clock Cas Meter Velocity Alf Stack Temperature IF Impringer Clock Cas Meter Velocity Alf Stack Temperature IF Impringer Temp Te	Sampling Clock Cas Meter Victority AH Stack Temporature IF Important Actual Temp(7) Troop Titure Temp. Stack Time Time Temp(7) Troop Titure Temp. Stack Time Time Temp(7) Troop Titure Temp. Stack Temporature IF Important Temp(7) Troop Titure Temp. Stack Temporature IF Important Temp(7) Troop Temporature IF Important Temporature III Important Important Temporature III Important Important Important Temporature III Important Impo	Sampling Cook Gas Meter Temporary Stack Time Time Time Theory (%) The Cook of	T5, 973 Sampling Clock Clock	Sumpling Clock Clock Meter Transport Clock Clock Clock Meter Transport Clock	Sumpling Clock Cas Meter Teach Stack Stack Stack Cas Meter Team, Team of Teach Cas Meter Team, Stack Cas Meter Team, Injury Confer Team, Stack Cas Meter Team, Injury Confer Team, Injury Cas Meter Team, Injury Confer Team, Injury Cas Meter Team, Injury	Sumpling Clock 175,273 Sund Shad Time Shad Time Time	Sumpling Clock And All Stade Transport of the Clock And All Stade Transport And All And All And

 $= \underline{H} \nabla$

 $\Delta Vm =$

CO₂: 3 0₂: (5 Probe Length/Type: 5 6 6 Pitot#: 85-8 Stack Diameter: (66 " K: 57, 36 3 Ps: 10.85 Operator: 315 Pbar: 20-20 Exerc Sample Type: Run Number: C->(5-(Date: 9/12//6)
Pretest Leak Rate: cfm @ in.Hg.
Pretest Leak Check: Pitot: Orsat: Plant: # 6 5 + 2

166" K: 57.363

Nozzle ID: 0.500 Thermocouple #: 75 -8 Orsat: Filter #: Ou Post-Test Leak Rate: 2010 @_____Post-Test Leak Check: Pitot: 1 Assumed Bws: 70 Meter Box#:

		(III)	· · · · ·			 I	 Γ			1	1		[1	Ι	г	Ι.	Γ.	-	·		Г <u>Т</u>
Pump	(in. Hg)			_				 									•					
ter Temp.	Outlet		<u>2</u> 2	8																		
Dry Gas Meter Temp.	Inlet		80	88	•																	
Aux	Temp.		3	OFF)																		
Impineer	Temp. T		00	03																		
ture EF	Filter		250	B + 7																		
Temperature EF	Probe		246	2+2																		
Stack	Temp (Ts)		351	244														. ب				
	Actual		1,51	1.5																		
HA	Desired		12,	1.5			÷										•	,				
Velocity	Head		0.0%	0,000																		
Gas Meter	Reading	252.9	56.3	259.789	•				Waa			•	-									
Clock		(20%)	12:00	(2152																		
Sampling		120	(25	_															and the state of t			-
Traverse	Number	9	-	7															· · · · · · · · · · · · · · · · · · ·		- Advantage	

Plant AM	< Middleta	~ 0	٠	Run No. Cor	nb 315-1
Date 9/	12/16	YO Sample Box No. BUSTION	SB-4	Job No. 8	50074.0172
Sample Lo	cation COM	BUSTION		Filter No.	3098
Train Prepa	arer EZ		Sample	Head No	5H-1
Sample Re	covery Person_	BF	Bar	ometer No	TWC.com FB-2
	*		В	alance No	FB-2
Front Half Acetone Container		Liquid Level Marked	Sealed		
Filter Container l	No. <u>QZ</u> -	3098	Sealed		
Description	n of Filter	black			
Samples St	tored and Locke	black			
Back Half/ Container	Moisture No.	n a	k		
Liquid Lev	el Marked	NA	Sealed _	NA	
T-1 N-F	C-4-4-	Initial Vol		Weight (gr	ams)
Imp. No.	Contents	·· (ml)	Initial	Final	Net
1	H20	100	761.4	862.4	101,0
2	H20	100	752.7	794.5	41.8
3	<u> </u>		675.0	686.7	
 			9520		1.7
5	Schia Gel	250	1500	973.0	21.0.
6 -					
	Total				176.3
Description	of Impinger C	atch:	clar		

Sample Type: 316 Operator: 1144, Pbar: 30.15 Ps: -0.70 CO₂: 3 O₂: 15

CO₂: 75 O₂: 15 Probe Length/Type: 5'6/ Pitot#: 755-Stack Diameter: 168" K: 100.573

Nozzle ID: a 500 Thermocouple #: 75 - 2 Assumed Bws: 10 Filter #: A 2 3099 Meter Box #: 7 Y: 100 AH@: 189 Post-Test Leak Rate: a 20 Ccfm @ 5 in.Hg. Post-Test Leak Check: Pitot: 12 Orsat: ____

Traverse	Sampling	Clock	Gas Meter	Velocity	HV	Н	Stack	Temperature EF	ture E.F	1000	Δııx	Dry Gas Meter Temp.	eter Temp.	Pump
Number	Time	A	Reading	Head	Desired	Actual	Temp (Ts)	Probe	Filter	Temp. F	Temp.	Inlet	Outlet	vacuum (in. Hg)
	0	0955	260,021											
	٦٨	(0 eC	263.600	}6.0 €	00).	097	348	540	252	8	-	65	59)
	10	1005	266.7	0.04	091	1.00	360	250	250	20		107	65	_
	15	1010	270,3	0.05	1.9	67	36.1	312	252	8		es	66	
	R	1015	274.2	0.05	1.8	37	h 98	252	052	20		73	62	
	27	1000	277 G	0.05	67	67	765	249	250	62		125	63	
	30		281.3	0,05	1.9	67	12 E	249	249	65		2/2	89	
	34	1020	284.8	V 0.0	1.60	6,6	375	751	542	100		20		
	40	1035	288.0	0.04	1,6	1, 10	376	121	250	6		20		
	45	020/	2962	0.04	97	1.60	378	548	957	99		۵ %	2	,
	50	1045	294.8	0.04	1, 6	97	380	253	250	2		25	72	7
	35	1050	3258	0.0%	97	1,60	250	542	152	500		200	2 3	
	(Jah)	1055	201,7	6,04	<u>`</u>	1,6	556	246	0.52	7		90 N	74	
	(e 5/	00/	D'106) رور	27	1.10	357	251	0_52	23		85	260	
	70	105	722	0.635	7.7	3.	360	251	725	25		& &	260	
	36	0)]]	311.2	0.035	7.4	١, ٧	3(0)	757	146	59		9	22	-
	вo	1115	3142	φ0′0	97	6	365	253	252	09		8	7 80	
	ů\$	1/20	3176	0.04	رة أرة أرة	7,6	369	248	642	0		88	28	_
	Eg.	(125	220,5	0.04	1.6	37	373	247	249)		% %	S S	
	95	1830	324.2	0,00	9'	1.6	h28	249	052	62		20	8	1
	OW/	1136	327,8	400	100	7) (0	360	249	250	79		2	8	_
	70%	الأن	331.0	0.035	<u>.</u>	구. -	383	251	249	102		%	82	
	N 0	1145	734.4	560.0	/ٰبر	١, ٧	351	249	250	58		68	87	
		1150	J. 3.60	0,040	6	3 <i>"</i> /	351	248	249	57		06 8	78	
	3	1155	279 JHG	0500	5	6.	353	65C	249	56		30	8.3)
		$\Delta V m =$	81.00	$\sqrt{\Delta p} = 0.20 28$	=HV	1.63 Ts=	= 365		-		$\overline{Tm} =$	84 =		100
			•											

0,0413

	Ale Middle			Run No. 2	Comb 315-2
Date_ 7//	3/14	Sample Box No	5BH Z	Job No.	050074.0172 QZ-3099
(1 T - T -				T 14	QZ-3099
Train Prep	arer	BF	Sampl	le Head No.	5H-1
Sample Re	covery Person_	BFIRK	Ba	rometer No.	Twc.com
Comments	}	315		Balance No	02-3099 5H-1 TWC.com FB-2
Front Half					
		Liquid			
Container 1	NO R-35-2	Level Marked	Loloop V		
Comamer	10. <u>C 2 2 2</u>	Level Marked	seated_		
Filter					
Container 1	No	- 3099	Sealed_		
Decorintia	n of Filter	h.ll.			
Describitor	n of Lilici	black			
Samples St	tored and Locke	d			
Dools Holf/	Maigtaga				
Back Half/					
Container	NO	NA			
Liquid Lev	el Marked	NA	Sealed	NA	
Imp. No.	Contents	Initial Vol		Weight (g	grams)
ттр. 140.	Comones	(ml)	Initial	Final	Net
1	H20	wo	777.4	899.3	121.9
2	1420	100	757,8	789.6.	
3	124400-		668.6		
	Silica Gel	250	951.9	981.0	29./
4	Silica (201		· · · · · · · · · · · · · · · · · · ·	7 0 110	
4 5	Silica (Jel				-
	Sifica Get				-

Stack Diameter: //p/6 Pretest Leak Rate: 6.201 cfm @ 11 in.Hg.
Pretest Leak Check: Pitot: 12 Orsat: -Run Number: C-2/5-7 Date: 9/14/1/ Plant: Hk Middle rown Sampling Location: Contastion

Operator: Mu CO_2 : $\frac{7}{2}$ O Probe Length/Type: $\frac{5}{2}$ Sample Type: 315 Pbar: 30.21

Thermocouple #: 1872 Filter #: 02 3/0/ Y: 1.004 AH@: 1 Assumed Bws: 1 Nozzle ID: 0, 590 Meter Box #:

			1.					Į	1			ı	1			-					·						C
Pump Vacuum	(in. Hg)			~	_	_)			_				سے ہ))	,		7	~	7	7	9	
Dry Gas Meter 1 emp. Tm	Outlet		65	65	610		68	59	2	70	72	72	73	52	76	Zle	77	78	79	Bo	80	28	82	82	83		
Dry Gas Met	Inlet		oses	29	26	22	25	26	82	<i>8L</i>	80	(8	28	13	<i>B</i> 7	200	20.0	28	80	88	96	\mathcal{Z}	Jo Jo	8	12	13	6£ =
Aux.	Temp.																										\overline{Tm}
Impinger	Temp. T		89	(4.7	62	6	63	49	(05	56	51	50		51	52	53			56	57	57	58	28		98	s,	
Temperature EF	Filter		カガる	255	254	242	248	250	253	243	348	244	248	249	251	249	248	249	242	248	246	250	247	254	249	052	
Temper	Probe		260	268	260	250	245	240	271	270	240	747	250	251	251	25%	251	750	250	252	249	253	25)	251	251	250	
Stack	Lemp (1s)		300	355	755	757	363	368	370	222	377	347	348	351	356	357	353	358	370	372	ンプゴ	380	349	3×8	350	355	= 358
ΔН	Actual		(,7	(.7	7.7	1.7	14	7.4	<i>5.</i> /	1,7	1,7	1,7	1.7	1.7	1.7	بة 0	20	1 is 7	۲.)	1.7	[-]	57	1.4	1.7	1.7	ŗ	1,66 Ts=
Δ	Desired		1.7	<i>t'1</i>	,7	27	1.4	7.7	b?	1.7	127	1.7	7.1	1.7	1. 7	2.0	2.0	Ž, 7	7.7	27	1.7	7.10	1.4	1.7	[,7	1.7	$=\overline{H}\Delta$
Velocity	Head		0.04	70.0	6.04	D.0 V	0.035	0.035	0.035	0.000	0.0%	0.0H	0.0 Y	0.04	0.04	0,05	2000	6,64	0,04	0.0 t	D 04	0.035	0.035	0,000	0,040	0,000	1 B = 0, 1993
Gas Meter	Keading	378.767	346.3	250.4	353.1	356.8	1636	362,870	ر د د	370.2	373.0	376,5	380.1	783,C		90	394.4	398,4	409,0	405.le	409.1	412,6		ħ/	23.1	426.554	$\Delta Vm = 67.787\sqrt{\Delta p} = 0.00$
Time		2560	000)	5001	1010	,5101,	1020	1025	16 m	1035		1045	1050	550/	3	105	1110	1115	(<u>(</u> 3	1125	05))	1135	041	1145	1150 4	75.	$\Delta Vm = \zeta$
Sampling	Time																										
raverse Point	Number	0	1 4	6 4	3 15	or h	10 \$	C 30	\$ 35	04 &	3% p	050	55 ti	09 n	1 60	a 70	8 75	08 4	58 \$	p 30	49%	8 100	(0) B	110	111/11	02/21	

0.0388

Description of Impinger Catch:

Plant	XK MIDDLETO	w		Run No. <u>C</u>	- 315-3
Date 9/	14/ \$	Sample Box No シメアックル	5B-Y	Job No	2074,0172
Sample Lo	cation Comp	レシアノカル		T2214 N.T	0.0 0.41
Train Prepa	arer <u>BF</u>		Sample	Head No	s H - 1
Sample Re	covery Person_	OF /RK	Baro	ometer No	FB-2 TUL.CON
Comments	315		Ba	ilance No	64-3101 54-1 FB-2 TUC.CON FB-2
Front Half Acetoņe					
Filter Container	No. <u> </u>	12-3101	Sealed		· · · · · · · · · · · · · · · · · · ·
Description	n of Filter	blac	- k		
Samples St	tored and Locke	d			
Back Half/ Container	Moisture No.	NA			
Liquid Lev	el Marked	NA	Sealed	NA	
T NT	G	Initial Vol		Weight (gra	ms)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	H20	100	775.0	919.7	144.7
2	1+20	100	759.5	793.2	33.7
3	r==	,	6691	(7/10	2.5
4	Silica bel	250	~ .	6203	28.4
5	DIFICA DET	250	909.9	7/01/	J 04 () - 1
6			<u> </u>		
					0.000
	Total		<u></u>		209.3
Description	n of Impinger Ca	atch:	cleur		



	_	4	
-	2	_	
	300	`)	f
r	T	۲	
	Ļ	۲	

9 Operator: 60	Ps: - 3.0	02: CEM		r: 35,5" K: 0,6106
Sample Type: M2	Pbar: 30. //		Probe Length/Type:	Stack Diameter: 35.5
Plant: AK Middle fown	sampling Location: Bachouse #3	Run Number: \$-29-16	Pretest Leak Rate: . NO John @ 10in.Hg.	Pretest Leak Check: Pitot: Vorsat:

EQM		ا				FIR	FIELD DATA SHEET	A SHEET		1 2	£ 3	·			
Plant:	JK M	0/10/0	four	Sample Type:	24	0	Operator:	9	>	Nozzle ID:	U. 0.156	Thermo	Thermocouple #:	73-4	
Sampling	Sampling Location:	Bachouse		. Pb	Pbar: 30. //	Ps:	J. 2.0		1.	Assumed Bws:	d Bws: 1.7	Filter #: 02	7	960	•
Run Numl	Run Number: 1-2	9-13	O))) 9 <u>7</u>	CO2: CEA		2		,	Meter Box #:	ox #: 13	V. 90	$\stackrel{\backprime}{-}$ $^{\Lambda}$ H $\stackrel{\backprime}{a}$: 1,783	0
Pretest Le Pretest Le	Pretest Leak Rate: , <u>flo</u> f cfm @ Pretest Leak Check: Pitot: ~	De pofm Pitot:	(@ <u>10</u> in.Hg. ✓ Orsat: (Pr. Ste	Probe Length/T Stack Diameter	Type: (3)	5.6 Pitot#: 5.1 K: 0.	6106	_	Post-Tes Post-Tes	Post-Test Leak Rate: <u>< OOl</u> cfm Post-Test Leak Check: Pitot: v	e: <u>a ool</u> ef ek: Pitot:	<i>®∻</i> 1 M2	Orsat: 1 \ Pro	7 Les 0 - 1
Traverse	Sampling	Clock	Gas Meter	l >-	ΔH		Stack	Temperature EF		Impinger	Aux.	Dry Gas Meter Temp. Tm	ter Temp.	Pump	
Number	Time		Reading	Head	Desired	Actual	Temp (Ts)	Probe	Filter	Temp. T	Temp.	Inlet	Outlet	(in. Hg)	
0	0	4201	120,400												
	3:20	1027	006.660	3.5	67	6'1	100	251	260	63	1 3 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	62	99	3,0	
2	6:38	1036	009,238	ري ري	1.9	1.9	-1/2	250	258	60	240	60	67	30	
3	9:47	1043	011,587	8,00	7.6	1.6	123	359	259	59	148	20	69	2.0	
h	13:01	1103-	013,921	8 4	7.6	9.7	120	258	259	57	241	11	20	j	
5	0E:91	1/2/	016.466	9, 2,2	8.7	8 /	124	257	260	59	240	12	14	2.0	
9	19:36	1140-	018,930	W,	81	81/	121	259	260	09	243	μď	73	9.0	
-	22:53	1159-	021,413	3,/	1,7	1.7	122	259	260	57	245	14	44	2.0	
2	26:17	12377	023.945	3,0	1,7	1.7	125	258	259	58	244	76	75	2.0	
W	29:35		026.473	3,2	<i>S</i> ?	1.8	121	257	260	57	248	77	77	40	
h	33.00	1255	029.014	3.3	8.7	8:/	120	360	258	58	247	28	78	2.0	
5	36,18	7/8/	031.405	2,8	1.6	9:1	125	250	360	59	244	80	79	2.0	
9	39:33	-2281	033.790	2.8	1.6	9.7	122	254	259	58	249	08	79	2,0	
_	42:49	1345	036,179	2,8	1.6	1.6	126	252	257	57	248	18	80	2.0	
2	71:97	-97.41	038,745	3,1	8"/	8.7	911	254	258	50	239	& 33	82	2.0	
3	49.31	1453.	041,285	3.1	8,7	1.8	122	253	259	59	237	83	00	rģ	
h	52:55	1506-	043,887	3,1	1.8	1.8	123	257	260	60	240	% %	% %	2.0	
5	56:18	1597	046,428	3,3	6.7	1.9	121	256	259	59	341	83	00 21	2.0	
9	59:43	1540-	049,064	3,3	1.9	6.9	120	258	259	00	238	∞ %	83	2.0	
1	62.54	1557-	051,519	3,4	61	1.9	124	252	258	57	239	83	83	م. ن	
2	66:38		054.208	3,2	<i>≫</i>	1.8	123	253	260	56	237	83	82	2.0	
3	69:56	1631- 1635-	056.837	3.2	. 8	1. 8	122	360	260	57	340	82	& %	3.0	
ή	73.20	1659-	059.457	3.3	1.9	1,9	121	250	258	59	238	82	8 2	2,0	
5	76:43		062.036	3,1	8'/	1.8	124	257	259	60	237	<i>بر</i> بر	18	2.0	

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0 Operator: $\frac{0}{Ps}$ Pitot#: Pbar: 30.13 P
CO₂: CEM
Cobe Length/Type: 3 Sample Type: Pretest Leak Rate: Jul cfm @ // in.Hg. Pretest Leak Check: Pitot: Run Number: P-A 9-1 Sampling Location: Plant: AK /

FIELD DATA SHEET

Nozzle ID: 6.156 Thermocouple #: $73-4$	Assumed Bws: 1.7 Filter #: QZ 2960	Meter Box #: 13 Y: 0, 28 9 AH@: 1,783	Post-Test Leak Rate: cfm @ in.Hg. Fing	Post-Test Leak Check: Pitot: 🗸 Orsat: 🗂	Dry Goo Mater Toma
		ı	7-	_	

		_		_																								
Pump	(in. Hg)		2.0	2.0	2.0	3.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	1.5	7.51	1.5	7.5	7.5	7.5	1.5	1.5	1.5	7:	1.5	1.5	
5	Outlet		6.7	69	11	73	44	75	75	92	77	84	78	0%	80	80	82	82	83	80	83		83	83	83	83	83	
Dry Gas Meter Temp. Tm	Inlet		67	70	73	13	75	92	76	24	78	26	29	80	7.8	81	83	82	83	83	83	83	83	83	& 3	82	82	
Aux.	Temp.		240	239	146	238	240	341	238	240	238	239	238	23.7	238	238	239	340	238	239	240	238	241	239	340	242	239	1
Impinger	Temp. F		63	57	58	59	58	52	59	00	5.8	54	54	56	57	59	10	00	58	59	59	58	09	58	57	58	56	
Temperature EF	Filter		259	259	259	259	258	261	258	261	258	259	458	258	257	259	258	259	359	260	258	259	259	259	260	259	259	
Temper	Probe		25.8	255	257	254	098	196	259	263	260	254	256	258	256	255	256	798	260	251	250	252	257	258	257	95 E	252	
Stack	1 remp (1s)		105	105	011	108	113	911	611	123	123	(a)	123	125	126	126	-123	121	123	125	124	122	122	123	127	611	122	
ДΉ	Actual		1.7	1.1	1.7	1,7	8.7	81	8.7	1.7	27	1,8	8.7	1.7	7.6	1.6	7.87	1.8	1.9	1.7	1,7	1.8	1,7	1.7	1.7	6.8	7.8	[
∇	Desired		4.7	1.7	1.7	1.7	6.8	7.8	8'1	1,7	1,7	7.8	7.8	1.7	1,6	1.6	1.8	1.8	1.9	1.7	1.7	1.8	1.7	1.7	1,7	1.8	8.7	}
Velocity	Псац		3.0	3.0	3,0	2.9	3,2	3.2	3.1	3,1	3.1	3,1	3,2	3.7	2.9	- 4	w,	6,6	3,3	3.0	3,0	3,1	3.0	3.0	2,6	3,7	3.1	
Gas Meter	neaming	067.410	069.876	072.383	074.933	077.464	080,040	082.605	085.105	865780	090.100	092.727	095,263	097,834	098.342	101,407	103,835	184.901	108,798	111.272	13.760	116,288	118,871	121.350	123.865	126.402	129.620	الت
Clock Time		.9891	_	1043-			1301-								,1		- 257	1458-	508-	15.35	543-	1553	10/0		1654	\exists	1725-	* * *
Sampling		83:31	86:47	90:06	93:29	96:50	h1:001	103:36 1	23	110:14	113:35	117:01	120,23	123:52	125:09 1	138:40 /	131:53	135:19 1	138:24	141.42	144.59	148:231	151:48 1	155:08 /	158:32 /	\$61:57	165:24	
Traverse Point	Number	Ø	2	3	Ţ	2	9	-	2	W	2-	2	9	_	7		43	, , l	8 S	2/	×	3			5 X	グメ	-	٠.

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Ag 3 of 3 FIELD DATA SHEET

Pump Vacuum Meter Box #: 13 Y: 0.989 AH@: 1.783 Nozzle ID: 0.156 Thermocouple #: 73-4
Assumed Bws: Filter #: QZ 2960 Post-Test Leak Rate: ,00/cfm @ 5 in.Hg.
Post-Test Leak Check: Pitot: Crsat: Dry Gas Meter Temp. Tm Outlet 8 8 7 Inlet Aux. Temp. 240 Impinger Temp. °F 57 260 Filter Temperature EF CO₂: $C_{\mathcal{EM}}$ O₂: $C_{\mathcal{EM}}$ Probe Length/Type: 3'6i Pitot#: 73-4 Stack Diameter: 35,5'' K: 6.6/06252 Probe Ps: - 2.0 Stack Temp (Ts) Operator: 123 Final Peoding > AVm = 126.979 JAp = 1,7585 AH = 1,76 Ts = _ Actual 30.23 Δ H Sample Type: M29 Desired Pbar: Velocity Head 3 Sampling Location: Saghouse #3

Run Number: f- 44-/ Date: 8-30-/6

Pretest Leak Rate: .00/ cfm @ // in.Hg.

Pretest Leak Check: Pitot: Vorsat: -129,020 Gas Meter Reading 131,070 AK Middletown 168.00 1738-Clock Time 165:24 1728 Sampling Location: Sampling Time 168:00 Traverse Point Number 0 a

 $\overline{Tm} = \overline{}$

DP= 3,0941

Plant AK Middletom Run No. P-5/29-1
Date \$\\\ 30\\\\ 16 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Date \$\frac{30/16}{20074.0172} Sample Box No. SB-3 Job No. S0074.0172 \q
Train Preparer F7 Sample Head No. 12
Sample Recovery Person BP/OS Barometer No. TVC.COA
Comments M29-yetals Balance No. 2
Front Half Acetone Liquid Container No. 9-29-1 Level Marked Sealed
Filter Container No. QZ2960 Sealed
Description of Filter ght grey loady
Samples Stored and Locked
Back Half/Moisture Container No

imp. No.	Contents	: Initial Vol :		Weight (gran	ns)
лир. 140.	Contents	\cdots (ml)	Initial	Final	Net
1			7771		
2 ·	5%-HN03/10%-H203	100	177.1	810.9	+ 33.8
3	5% 1403/10/1402		770.0	777,8	+ 7.8
4	_	_	674.9	6762	+ 1.3
5	4%- KMNO4/10%-1759	100	781.4	781.2	- 0,2
6 ·	47. Karby/10%142504	100	782.5	782.8	+ 0.3
7.	Total Stica Gel	2509	931.8	955.1	+23.3
-	Total		P1		66.3

8/29 8/30 Porte Porte Porte Porte

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阿安司 00 Operator: 30.05 Sample Type: 1739 FQM

Plant: # Midd(e+on)

Sa Sampling Location: Prophose 3

Run Number: P. 29-2 Date: 8-31-16

Pretest Leak Rate: 60 cfm @ 10 in.Hg.

Pretest Leak Check: Pitot: Forsat:

Thermocouple #: Filter #: QEZ Nozzle ID: -156 Assumed Bws: 1.7

Jennyming Povencia.		3	1		200				1				η.	1
Run Number:	٥.	4-2	Date: \$-31-16		CO2: CEM	O_2 :	CEM:			Meter Box #:	10x #: 13	 	(\mathcal{G})	1.783
Pretest Leak Rate:	ak Rate:	ooi cfm	e .		Len	igth/Type: 3'6,	6/ Pitot#:	# 73-4		Post-Te	st Leak Rat	Post-Test Leak Rate: 1 00/cfm	(a)	in.Hg.
Pretest Le	Pretest Leak Check: Pitot:	Pitot:	文 Orsat: ~	St	Stack Diameter:	4	چر"/K:	,6106		Post-Te	Post-Test Leak Check: Pitot:	eck: Pitot:	✓ Orsat:	at:
Traverse Point	Sampling	Clock Time	Gas Meter	Velocity	Ą	ν	Stack	Temperature EF	ure EF	Impinger	Aux.	Dry Gas Meter Temp Tm	eter Temp. n	Pump Vacuum
Number	Lime		Keadıng	Head	Desired	Actual	lemp(1s)	Probe	Filter	Temp. °F	Temp.	Inlet	Outlet	(in. Hg)
0	0	1020	131. 400											
1	3:21	1024	133.885	3.0	1.7	1.7	80	249	256	64	238	<i>∞</i>	88	1.0
7	6:48	1035-	136.513	2.9	1,7	4.7	107	258	257	9	239	69	69	1.0
N	10:03	184.82	138,873	2.9	1.6	1.6	118	250	257	58	237	20	20	1.0
ŗ	13:22	-6011	141,257	3,0	1.7	1.7	121	256	258	59	238	12	11	1.0
S	16:49	1123-	143.780	3.0	1.7	1.7	123	260	257	5%	239	72	12	0 7
ŋ		3/3/1	146.362	3.0	1.7	1.7	122	260	259	59	240	73	73	1,0
7	73:51	1200-	148,938	3.2	1,8	1.8	121	262	360	57	238	ΉĻ	44	1.0
2	27:24	1230-	151.628	2.2	1.8	1.8	122	263	360	56	146	75	75	1.0
<i>(</i> ~)	30:53	1239-	154.277	3.2	1.8	7.8	122	265	260	57	239	7,6	76	1.0
7	34.21	1257-	098.951	3.0	41	1.7	121	256	360	57	238	17	11	1.0
کم	6	13/6-	159,413	3.0	1.7	1.7	120	360	198	59	239	84	78	0,1
9	41:21	1335-	162.095	3.0	1.7	1.7	116	258	258	60	238	79	79	1.0
	44:52	1345-	164726	3.0	1.7	1.7	811	261	260	59	239	80	80	1.0
7	48:07	-874	167.174	3,1	8.7	6.8	111	256	361	58	238	79	08	0.1
W	51:26	-6561	169.631	3,1	8:1	1.8	115	254	259	57	237	49	79	7.0
7	54.42	1510-	172.054	3,2	8.7	1.8	112	250	260	58	237	79	49	1.0
<i>l</i> 2	58:12	1525-	492.421	3,1	6.7	1.8	117	252	360	59	238	79	79	1.0
9	61:32	1543-	177.363	3,2	8./	8.7	110	256	260	5.8	240	28	78	1.0
ļ	64:51	7600- 7603-	179,933	3,2	8.7	8',	113	254	259	00	240	11	77	1.0
2	68:14	1617-	182, 525	3.3	1,9	1.9	110	257	260	58	237	11	77	1.0
3	71:32	1634-	185,134	3,4	1.9	1.9	112	257	258	59	238	92	76	1.0
7-	75:10	1652-	188.020	3.4	2.0	2.0	801	251	259	56	236	75	75	1.0

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	759 1.783 in.Hg.	Orsal.	Vacuum (in. Hg)		1.0	0.7	1.0	9. ©	2.0	2.0	7.5	1.5	1.5	1.5	1.5	07	1.0	1.0	1.5	1.5	1.5	1,5	1.5	1.5				ļ <u>.</u>	
	couple (%)	eter Temp	Outlet		6.7	29	66	99	66	99	99	67	67	89	89	89	69	- 70	06	70	20	70	70	26					
,	6 Thermocou 7 Filter #: 6 7 Y: . 484 10 te: .00/ cfm (Dry Gas M	Inlet		99	29	90	99	. 99	66	47	69	8.9	89	69	69	70	20	10	10	11	20	70	70					
t to	Nozzle ID: 1/56 Assumed Bws: 1.7 Meter Box #: 1/3 Post-Test Leak Rate:	rost-1est Leak Check; ruot: Dry Gas M	Aux. Temp.		236	237	239	240	237	238	238	239	237	237	340	232	238	236	239	240	239	238	240	239					
rd. 2	Nozzle IE: Assumed Bwg Meter Box #: Post-Test Lea	1-1807	Impinger Temp. °F		59	54	52	5.3	54	53	54	57	25	58	29	09	58	24	95	58	59	09	09	19					
1	» , , , ,	ture EF	Filter		259	360	258	258	259	360	259	259	258	260	259	360	359	098	658	261	361	258	259	259					
A SHEE		# 10 D Temperature EF	Probe		158	250	250	260	252	254	260	261	251	256	255	260	259	258	258	260	256	256	250	251					
FIELD DATA SHEET		Stack	Temp (Ts)		66	86	107	801	110	110	101	105	<i>h.IJ</i>	115	011	///	113	901	112	110	116	111	110	113				:	
FII	Pe: 02	5	Actual		2.0	2.0	1.9	1.9	1.7	1.7	<i>8"</i>	1,9	81	1.7	87	87	8-1	87	61	1.9	/ 8	87	1.8	61					
	e Type: 73.4 Pbar: 30.08 CO ₂ : CE M Probe Length/Type:	Stack Diameter:	Desired		2.0	2.0	1,9	1.9	1,7	1,7	8.7	1,9	87	41	81	87	8.1	81	61	1.9	87	87	7.8	61					
	Sample Type: Pbar: CO2: 1 Probe I	Velocity	Head		3.5	3,5	3.4	3,3	3,1	3.0	3,1	3.3	3,3	3.1	3.1	3,1	1.8	3,2	3,3	3,3	3,2	3.2	3.2	3.3					
	6 f w 1 / 6 f w	Gas Meter	Reading	196.488	149.038	201,637	204,270	204,946	204.475	211.981	214,432	217.033	219,695	223.017	224.789	227.320	229.785	232.274	234.756	237.262	239.642	242.087	244,457	146 94E					
	120 mg	7	Time	10:30	10:23	1035-	10470			-251	7000	1219-					1345-	3 hh/ -/hh/	1452-			1543-	- 1091	16f67					
	Plant: #K Middle! Sampling Location: P. 29- 2 T Run Number: P- 29- 2 T Pretest Leak Rate: 0.001 cfm	Tretest Leak Check: Fittor: Traverse Sampling Clock	Time	50:58		186.16	95:05	98.25	101:43	105:05		111:50	115:14		121:54	125:24	1	ا	135:14	138:31	V	185:441	1	151:30	1				
	Plant: #K M Sampling Location: Run Number: P- S Pretest Leak Rate: C	Traverse	Point Number	0	لا	3	h	5	9	1	2	W	h	5	9	7	2	W	'n	5	٩		2	W	'n	5	9		
to the state of th		L		1	<u> </u>	I				<u> </u>	I		j .	I .	7	2			!	<u> </u>		λ	,		1				<u></u>

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P/31 - 9/1	Date 9/3/ Sample Lo Train Prep Sample Re	ocation Posks arer ba ecovery Person	Sample Box No. Shank house 5/29	Sample	Head No	-29-2 5W74 0172 UZ 2959 12 1WC. LOW
	Front Half Acetone Container		Liquid Level Marked	Sealed	€0001000 do · · ·	
	Filter Container	No. <u>Q</u> 229	57	Sealed		V
	Description	n of Filter	ght bray			·
		tored and Locked	·		\	
			HNV3/4202, 41	h wing to		emay /HCI
	Liquid Lev	el Marked		Sealed		·
	Imp. No.	Contents	Initial Vol (ml)	Initial	Weight (gr	rams)
	1	5% 4NO3/10/2462	cw	780,2	807.8	27.6
	2	570 HNU / 10/0 HOL	/w	773.5	7797	
	3	engly		678-4	679.6	
orpleon -	4	konney	100	785.3	7542	- 4
usplepm -	5	Warney	(w	786.8	786.5	
1 Hr.	6	Sh	250	905.8	925,7	19.9
	7	Γotal				2 mm)

Description of Impinger Catch:	·

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Thermocouple #: 2 Filter #: Walk Post-Test Leak Rate: 'Osi cfm @ Post-Test Leak Check: Pitot: Assumed Bws: 1.7 Meter Box #: 1019 0 Pitot#: Operator: 02: 0 3'6/ Stack Diameter: 35,5" Ps: Probe Length/Type: Sample Type: M57 いでと CO_2 : Pbar: Orsat: 1000 Sampling Location: (214 houses Pretest Leak Rate: . 003 cfm @ Pretest Leak Check: Pitot: Plant: AK

Y: 0. 489 AH@: 1.783 _ in.Hg. QZ 296 É Orsat:

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FIELD DATA SHEET

Pump Vacuum 0 Ó ~ ~ 0,1 0 0, 78 ∞ Ŕ Dry Gas Meter Temp. Outlet & (L) જ. દ્વ 8 75 20 75 73 77 ∞ 1 1 8 000 26 200 12 4 74 0000 (K) 4 60 73 77 79 In let 1 5 236 250 239 250 Aux. Temp. 739 239 240 238 739 240 240 340 340 241 Impinger Temp. T 5 57 57 57 56 56 2 58 50 260 260 250 259 260 258 196 260 259 260 260 259 Filter. 258 361 261 Temperature EF 262 258 258 250 262 797 260 258 254 258 796 Probe 796 262 259 261 Stack Temp (Ts) 00 120 33 801 120 129 122 911 129 3 111 10; Actual 6.9 1,9 ? \ . . VΉ Desired 75 87 0 Velocity Head 3,4 7 7 く 4 Ü W. Ø 3 ζV) 3 ŝ W W W m ८५ 285, 515 247.319 287,823 249.758 265.432 268 177 283,234 252.183 257,725 270.775 275,669 254.675 362.818 273,188 278.144 280, 815 Gas Meter Reading 760 214 Time 1026 27:05 Sampling Time 36.58 20:23 30.23 33.44 50:20 23:42 17:08 40:14 43.40 40.14 13:51 Ø Point Number NW2 a-2 \mathcal{Z}

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P-5/29-3	

Post-Test Leak Rate: 1001 cfm @ Post-Test Leak Check: Pitot: Filter #: Pg 2 g 2 Nozzle ID: . 15 Assumed Bws: Meter Box #: FIELD DATA SHEET Operator: 6Pitot#: Ps: Pbar: 30,16 RCO₂: CEM CO₂: CEM CO₂: Stack Diameter: 35. Sample Type: 115, Pretest Leak Rate: , 00/cfm @ Prefest Leak Check: Pitof. Plant: HK M Sampling Location Run Number: 🎤

Y: 0,989 AH(@: 1,783 Thermocouple #:

								,		,		,	···					,	r									
at:	Pump	(in. Hg)		0.7	1,0	9.	1.0	0"1	1.0	1.0	1.0	1.0	0.1	07	1.0	1.0	0.1	1.0	0.7	7.0	01	0.7						
Orsat:	eter Temp. n	Outlet		72	46	75	26	22	27	88	78	85	98	98	. 98	87	28	98	85	85	48	20						
eck: Pitot:	Dry Gas Meter Temp. Tm	Inlet		72	75	92	44	78	8%	83	48	98	98	18	8.7	28	28	28	85	85	84	48						
Post-Test Leak Check: Pitot:	Aux.	Temp.		240	239	146	240	238	239	240	237	339	238	23.7	237	338	237	339	240	238	239	240						
Post-Te	Impinger	Temp. T		60	56	55	54	457	56		56	55	57	58	59	58	57	58	24	57	58	57						
	Temperature EF	Filter		260	258	260	259		259		260	258		258		3 260		259	260	259	, 257	360						
. 6106		Probe		254	262	261	260	260	259	262	360	70E	262	260	263	363	258	262	260	259	258	259						
5" K:	Stack	lemp (IS)		106	1/8	127	133	134	130	123	124	129	127	128	129	129	127	129	125	124	126	127	-					
55.	ΛH	Actual		8.7	1,7	1,6	1.7	1.7	1.8	4.8	7,8	1.7	8.7	1.8	1.8	8:/	8-1	1.7	7.8	81	1.8	8.7						
Stack Diameter:	Ā	Desired		8-7	1.7	1.6	1.7	1.7	8.1	1,8	87	1.7	8 ./	7.8	1,8	1.8	1.8	27	1.8	1.8	1.8	% .7		,				
Sta	Velocity	Head		3,1	3.0	2.8	3,/	3,1	رم	3.2	3,2	3,0	3,1	3.7	3,1	3,2	3,2	3.0	3.1	3.1	3.1	3,1						
Orsat:	Gas Meter	Keadıng	310,382	312.867	315,335	317.778	320,209	322.672	325.126	327,563	330.106	332.488	335.038	337,643	340,217	342,761	345,261	347.807	350,336	352,999	355,693	358.138					•	
Pitot: 🗸	Clock		1651	4501	104-	11/2-	1139-	777	- 45H	7.506- 1.510		1534-	1547-	1601-		,				1725-		1753-	•			1 21 20 1		
Pretest Leak Check: Pitot:	Sampling	Ime	83:06	86:22	89.41	92:52	90:06	99:25	102:38	105:53	11:501	112:21	7	119:05	122,25	,	128:56	132:17	hE:581	138:56	142:29	1hishl						
Pretest Le	Traverse Point	Number	0	re	દર	,	7	e	1	2	2	h	7	9	1	2	3	ħ	5	9		2	3	2	5	9	/	C
														1.0														

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Plant K	k Steel Mrd	ldletown		Run No	929-3
Date 9/	7/16 S	ample Box No.	513-3	Job No.	50074,0172
Sample Lo	pocation Pu, Li, arer C S ecovery Person	Baylone		Filter No. 📿	Z 2961
Train Prep	arer <u>C</u> 5	<u> </u>	Sampl	e Head No	12
Sample Re	ecovery Person	DA	Ba	rometer No	TWC
Comments	sM5/2	<u>.</u> q	E	Balance No	2
Front Half Acetone / Container	HND3 I No. <u>1-5/2913</u> I	Liquid Level Marked	Sealed _		
	No. <u>Q</u> 7				
Description	n of Filter	Lis	Lt Gra	7	
Samples S	tored and Locked			,	
Back Half/ Container	Moisture No. 4	13/thoz; 4H	Suy;	Krnon, H	cl
Liquid Lev	el Marked	e e e e e e e e e e e e e e e e e e e	Sealed _		
т ът		Initial Vol		Weight (gra	ms)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	5% HNV7/10% HOZ	100	779.1	808-5	
2	2041103101010	100	772.4	780.9	
3	HOUSE		676.7	' <u>'</u>	8.5
4	KMNY		7944	792.8	1,0
	 	100			-1.6
6	Kurn	100	769.0	769.0.	O
	54	250	928.9	950.6	21.7
`.	Total				59.0

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AH(@: (68) Filter #: QZ 2956 Y: 1.25 Assumed Bws: 70 Meter Box #: 2

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Pump Vacuum (in. Hg) in.Hg. Orsat: U Nozzle ID: 0.500 Thermocouple #: Dry Gas Meter Temp. Outlet 7 0 cfm @_ Tm Post-Test Leak Check: Pitot: S 888 Inlet 10 00 0 Post-Test Leak Rate: Aux. Temp. Impinger Temp. °F 8 29 88 S 80 \mathcal{C} Š 633 3,7 250 Filter 23 250 5 235 234 Temperature EF 16-150 234 Probe 25.C 200 13 200 234 73.C $\frac{2}{2}$ 13. T. 02. 2 15 6 12 Pitot#: IN Stack Temp (Ts) Operator: 200 32 975 ÿ 29 340 12 330 293 S COM 2000 Actual J Probe Length/Type; <u>ئ</u> ئ ニー J . . . Stack Diameter: ___ **~** ٠ 3 5/28 ΨV 20. Desired ٦, 7 Sample Type: Pbar: CO_2 : Velocity Head 50. , LO آ. ا 20 0 ू 3 Ç \tilde{o} 70 Mid Sexem Pretest Leak Rate:0.007 cfm @ 10 in.Hg. 70.192 780.9 Gas Meter Reading 787.5 773.03 785.8 790, B 0.861 Pretest Leak Check: Pitot: 🗸 Orsat: 778. 2年,3 201 Date: 1037 1697 1047 Clock Time Ex 01 200 1052 000 0 200 8 Run Number: 2-5/29/ AL Shal Sampling Location: Sampling Time d 2 0 1 0 12, 3 J. Cr 67 90 4 S ., ۹ S 3 Ç Traverse Point Number Plant:

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Operator: NP - Ps: _ 20 30.20 Middletown Sample Type: 5/ Pbar: _

9.9.6

/ Date:

Run Number: 6-5/29// Date: **a-6**Pretest Leak Rate: 6-6 cfm @ 10 in.Hg.

Pretest Leak Check: Pitot: 6-5 Orsat: 6-7

グライン ろぎょうろう

Sampling Location:

CO₂: 3 O₂: $/\mathcal{Z}$ Probe Length/Type: $6/\mathcal{C}\mathcal{L}$ Pitot#: $7\mathcal{E}^{-}/\mathcal{E}_{s}$ Stack Diameter: $/\mathcal{E}\mathcal{B}''$ K: 53//3

Page 2 of 3

Y: 1.005 AH@: 1.63 Meter Box #: Y: 1.005 AH@: 1.63
Post-Test Leak Rate: 1.003 cfm @ 1. in.Hg.
Post-Test Leak Check: Pitot: 1.005 Assumed Bws: $\frac{10}{2}$ Filter #: $\frac{022954}{2}$

Γ		////	Į		1			Τ				1	1	1	1	Т	$\overline{}$	1	1	Т		_	T	т—			٦	
Pump	(in, Hg)		~	7	~	~	~	x	4		8	M	~	^													1.5.99.31	
Meter Temp. Tm	Outlet		20	62	20	Ž	20	20	95	96	96	100	2	9.5								Company of the Compan					92	2
Dry Gas Meter Temp. Tm	Inlet		101	101	£0)	103	501	50)	501	105	901	90/	20	100													5	
Aux.	Temp.		NA	***************************************			NET-ONLOG	VOLUME - 2008	BACCATOR PRO		فتمسرومهين	ت نست د سرور در ا	,		anga ma Market				special statistical		 		and the second second			>	$\overline{Tm} =$	
Impinger	Temp. T		63	63	58	15	57	57	57	27	59	9	59	59														`
tture EF	Filter		CLE	452	236	236	233	235	234	234	1386	234	234	234								-						
Temperature EF	Probe		$h \in \mathcal{C}$	15E	234	234	233	235	334	233	336	235	234	234														
Stack	Temp (Is)		887	283	305	325	327	8/2	330	335	277	88C	68C	792													15	
ΔН	Actual		(,5	1.5	1.9	6.1	67	b '(b'(51	9.	91	21	9.1		-								,			1.5167 _{TS} =	
V	Desired		1.5	57	1.9	1.9	10	0	P_)	j. 9	9	9.1	9"	1.6									ASSAWATE TO A STATE OF THE STAT		111111111111111111111111111111111111111		=HV	•
Velocity	Head		i SH	40.	,05	, 05	300	50,	50,	, o5	μ°,	μο.	70	10												A CONTRACTOR OF THE PROPERTY O	$\sqrt{\Delta p} = 200^{\circ}$	
Gas Meter	Keading		856.6	860.1	863.7	867.6	871.5	g.5.4	879.3	8.83.2	587.1	890.7	394,2	847. Glo								-					127.648 V	
Clock			125	130	(35	140	541	05/	1237	ChC1	1247	1262	1381	1302													$\Delta Vm = $	
Sampling	Time	2)	1001	212	1217	1223	1237	1233	758	(60	165	170	175	Ž												east Calcium (AHA	7	
Traverse Point	Number		بيوسوستكثم	CR	3	}	5	9	e de la constante de la consta	5	3	h	5	9														

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Plant A	K Miss	LETOUN		Run No. C	2-5/29-1
Date 9/6	116 5	ample Box No.			50074.0177
Sample Log	cation ()MS	ample Box No OSTON STAZE			27 2956
	rer CJ			_	54-9
_	covery Person	<u> </u>	Barc	meter No.	Two.con
~	5/29	<u> </u>			2
Commonts	3/21		Da		
Front Half					
Acetone	1 5/10 1	Lianid		<i>,</i>	
Acetoije	C-3/21-1	raid Monteed	Contact		
Container	NO. FROUTIL	Level Marked	Sealed	· · · · · · · · · · · · · · · · · · ·	
	/6	Liquid Level Marked RL и ноо, Рикс			
Filter	<i>(</i> 0,)				
Container 1	Vo. <u>QZ-</u> 2	956	Sealed		
Description	of Filter <u>b</u>	lack loc	liy		
Samples St	ored and Locked	1			
Back Half/I Container N	Moisture No. $C - 5/2$	5-1 1BAP 1-	3/1MP4/	(KM404/	14,0 + 8N HKL
Liquid Lev	el Marked		Sealed		
T 3.5	G	Initial Vol		Weight (g	rams)
Imp. No.	Contents	(ml)	Initial	Final	Net
_					

Tona No	Contents	Initial Vol		Weight (grau	ns)
Imp. No.	Contents	(ml)	Initial	Final	Net
1			664.5	844.0	179.5
2	57. HNU> /107. H2O2	100	779.0	853.6	74.6
3	57. HNO3/1014202	100	763.2	784.8	21.6
4	-		651-2	653.90	7.4
5	KMnOy	100	765.4	762.5	-2.9
6	KMn04	100	805.3	807.6	2.3
フ ÷	Fotal SG	250	927.7	956	23.4

Description of Impinger Catch: Clear for ple

Bus = 10, 21/.

Pretest Leak Rate: 4.02 cfm @ 1/in.Hg.
Pretest Leak Check: Pitot: 14 Orsat: Run Number: C-5/24-2 Date: Plant: /// / ''CC!'C'
Sampling Location: Combustor

FIELD DATA SHEET

CH ! Operator: 20 Pbar: Sample Type:

Probe Length/Type: CO₂:

Ps: Stack Diameter:

Nozzle ID: 6,500 Thermocouple #: / 673/	Assumed Bws: 10 Filter #: 92 2162	Y: 1.005 AH@: 1.687	$\overline{}$ cfm \overline{a} in.Hg.	k: Pitot: Orsat:	
Nozzle ID: 6,500	Assumed Bws: 10	Meter Box #: 4	Post-Test Leak Rate:	Post-Test Leak Check: Pitot:	
14	, St		76-150	5.113	

Pump	(in. Hg)		S	B	B	2.5	8	^	~	5	~	S	M	~	3	۲	ک	^	3	5	an,	۶	5	3	3	W	
eter Temp.	Outlet		69	63	\ 0	20	71	7.2	23	73	24	X	2	22	82	28	78	29	29	X	7.0	80	80	80	80	80	ſ
Dry Gas Meter Temp. Tm	Inlet		69	20	1/	73	75	77	78	80	82	84	X	25	38	85	98	, 98	98	98	87	87	18	87.	88	8	
Aux.	Temp.		140	151	227	74H	259	367	146	275	274	UE	716	21C	W.C	274	BLC	273	566	51B	273	12C	51C	28	hLB	376	\overline{Tm}
Impinger	Temp. T		65	49	Ş	52	53	h5	55	25	56	23	28	85	99	CC	60	63	89	63	64	65	19	59	59	50	
ture EF	Filter		159E	199	2	265	596	1964	598	264	H.	265	SEA	263	H264	264	264	265	52	264	263	1997	19C	h9C	364	HIPE	
Temperature EF	Probe		89C	59C	265	596	1,96	764	1. H	264	19C	HE	198	BR	363	12	19C	365	25%	579	hIE	49C	398	X3	49E	5 <i>9</i> C	
Stack	Temp (Ts)		500	369	275	761	488	324	327	378	320	328	527	329	HOC	303	OBE	303	992	291	314	305	314	7	317	2(8	
h _t ti	Actual		1.5	2-1	7.5	ارح	- S	drop	4.1	7:	۲.	1.5	Š	Pé'	P	2	1.5	1.5	51	1.5	1.5	15	1.5	15	1.5	5.)	\overline{Ts}
Н	Desired		<u>ل</u> ى:	1.5	1.5	13	٦.	Ţ	14	77	19.	3	5-	ř)- م	بخ	5)	Ÿ	5:1	1,5	5	Ē	ž	1.5	.5.	(.5	$=\underline{H}$ Δ
Velocity	Head		Ho,	401	40,	,03	Ho.	40.	40,	50,	40	75.	Po-	10,	40	â	40	20	40	, ott	40,	h0.	₽ <u>_</u>	40,	7.0	No.	$= d\nabla h$
Gas Meter	Reading	939.326	9.CH5	916.0	5 b/1 b	952, 7	0.8%	959.5	163.0	966.5	970.0	973.5	977.0	950.9	984,0	987.5	991.1	904.6	948.2	1601.7	£.500)	8.4001	h'elol	1015.9	1019.5	0.5501	
Clock		840	245	280	358	ap	306	0 2	28	920	432	930	435	3	dys	dsa	955	(<i>Q</i> 0)	1005	010)	اهای	0601	X	0501	3501	(왕)	$\Delta Vm =$
Sampling	Time	0	a	0	R	20	159	6,	72	0.}	內	20	12	09	65	70	5%	B	358	5	96	8	'n	<u>ء</u>	211	3	
Traverse	Number	0		0	\cap	7	5	0	~	B	6	2		0		Ce	~	3	مح	ು	7	8	0	2		Q	

CO₂: S O₂: S O₂: S O₂: S O₃: S O₃ Ocation: Combustion State Const. Sample Type: 5/29 Operator:

Nozzle ID: .Soo Thermocouple #: 76 KP Assumed Bws: 10 Filter #: 07 2462

Meter Box #: 2 Y: 1.00 AH@: 1.68 Post-Test Leak Rate: 40 Zefm @ 6 in.Hg.

Post-Test Leak Check: Pitot: 11 Orsat: -

1036.20.3 (Am = 1464) 15 304 364 365 373 473 54 305 364 365 374 365 374 365 375 375 375 375 375 375 375 375 375 37	Sampling Time	Clock Time	Gas Meter Reading	Velocity Head	HV		Stack Temp (Ts)	Temperature EF	ture EF	Impinger	Aux. Temn	Dry Gas M	Dry Gas Meter Temp. Tm	Pump Vacuum
1036.6 . 04			a a a a a a a a a a a a a a a a a a a		Desired	Actual		Probe	Filter	Temp. Fr	ı emp.		Outlet	(m. Hg)
1036.6 .04 .15 .284 .267 .265 .277 .264 .267 .265 .272 .264 .267 .255 .272 .264 .267 .257 .267 .277 .267 .267 .267 .267 .267 .267 .267 .267 .277 .267 .277														
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Shol	9.9601	40,		6.5	289	364	190	56	12C	68	18	~
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	130	(050)	1030, 3	2	<u>(,5</u>	,	272	7264	264	\mathcal{C}	282	89	8/	~
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	135	5901	1033.9	40,	1.5	/ē	K	365	2ch	53	271	. 18	B	5
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1047.6 4		105		70,	5-)	(5	٠	764	264	53	238	90	83	3
1047.9		((0	ļ	Ę	6.5	zi.	CbE	196	764	55	271	80	S	~
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1065.0 .cd 1.5 1.5 316 366 363 54 373 91 94 1063.0 .cd 1.5 301 364 266 60 373 93 94 1065.539 .cd 1.5 1.5 301 364 266 60 373 93 93 94 1065.539 .cd 1.5 1.6 1.5 301 364 364 60 373 93 93 94 1065.539 1.6 1.46477s 303	1	77.	0.550	Jo.	i,	<u>i</u>	3/4	267	265	57	272	, 16	(A)	~
063.0 - 04 1.5 1.5 301 364 365 60 373 43 94 365 301 364 365 60 373 43 94 965 36	1	1130	1059.1	-ਭ	ń	ارک	316	<i>398</i>	263	54	273	. 16	178	3
136.213/ <u>Ap</u> . 14	1	135	1062.0	ò	2,	š	247	Z64	300	09	273	, cb	h8	~
$\frac{1}{\sqrt{26.213\sqrt{\Delta a}}} = \frac{1}{\sqrt{4b}} = \frac{1}{\sqrt{4b}} = \frac{302}{202}$		9-11			6:1	1.5	301	<i>አ</i> 9℃	Z64	00	273	92	135	3
$\frac{136.213\overline{\Delta p}}{185} = 195$	ļ				,									
$\frac{36.213\overline{\Lambda_D}}{136.213\overline{\Lambda_D}} = 1445 \overline{\Lambda_H} = 1.464\overline{\Lambda_S} = 302$														
$(36.213.\overline{\Delta b} = .1966)$														
136.213.120 = 1945 AH = 1.46417s = 302														
$(36.2)3_{\overline{AD}} = (445)$														
136-213/ <u>Tab</u> = 1945 <u>AH</u> = 1-464/ <u>Ts</u> = 302	ĺ					- commerce of the								
136-213/ <u>Ap</u> = 1945 <u>AH</u> = 1-464/ <u>Ts</u> = 302									-					
$(36.2)3_{\overline{A}\overline{D}} = .1455 \overline{AH} = 1.4641_{\overline{A}} = 303$														
$(36.213/\Delta p = .1945 \Delta H = 1.469/T_S = 302$	1													
(36.2)(3.00) = (1465) = (-464) = 303														
$(36.213/\Delta p = 1945 \Delta H = 1.464/T_S = 302)$														
		AVm =		1985 = 11985		1-464Ts					Tm	4	B	

Ave 100 - .0394

Sample Loc Train Prepa Sample Re	Steel - Medd //b S cation Comb arer DA covery Person Maga-	DA	Sampl Ba	Filter Noe e Head Noe rometer Noe	-8/9-2 50074.0172 WZ 2962 9 DUC.CO
Front Half Acetone // Container 1	10.C-5/19-2 1	Liquid Level Marked	Sealed_	./	
Filter Container I	No. <u>Q</u> Z;	2962	Sealed_		
Description	of Filter	black Loa	idry		<u> </u>
Samples St	ored and Locked				
Back Half/ Container I	Moisture No ႃ/	4,103 (1	hor y	th Impiger, K	may HCL
	,				·
Imp. No.	Contents	Initial Vol		Weight (gra	r · · · · · · · · · · · · · · · · · · ·
<u> </u>		(ml)	Initial	Final	Net
1	5%/10%		669.3	850,9	181-6
2	3/0/10%	1W	780-5	8-55-6.	75-1
3	5/61/NO3/NGHEL	<u>(W</u>	767.1	1 .*	16:8
4	Konnoy		653.2		2.7
5			774.7	775-1	0.4
6	KMnoy	(W	803,9	804.3	0.4
	Total		<u> </u>		303.0
Description	ı of Impinger Cat	tch: Co	ar pu	ple kmndy	
	SG	250	935.7	961-7	76.0
	(Busz 10,2%
•		·			Bus= 100,2% Zso= 100,2%

Middlefan Sample Type: COMBUSTER STACK Run Number: (-5/24-3 Date: 9-7-16 Pretest Leak Rate: cfm @ @ in.Hg. ∕¢Orsat: Pretest Leak Check: Pitot: Sampling Location: Plant:

Operator:

Ge Pitot#: Probe Length/Type: 6' Stack Diameter: CO_2 :

FIELD DATA SHEET

K: 53.113

Rige (of 2

Y: 1.005 AH@: 1.63 cfm @_____Orsat:__ Nozzle ID: .50c Thermocouple #: Assumed Bws: $\underline{.c}$ Filter #: $\underline{023}$ Assumed Bws: $\frac{1}{2}$ Filter #: Meter Box #: $\frac{1}{2}$ Y: $\frac{1}{2}$ 055 Post-Test Leak Check: Pitot: Post-Test Leak Rate: Meter Box #:

				· ·								Ι	I	1	I	Γ				· · · · ·	<u>, </u>			····	····		
Pump Vacuum	(in. Hg)		~	~	*	^	~	>	~	~	7	~	۸۹	~	W	n	3	~	ھ	~	7	7	کر	ام	8	~	
Meter Temp. Tm	Outlet		83	48	1981	48	18	85	86	98	87	8	(X) (X)	88	68	89	89	26	æ	40	06	2	16	16	62	42	ı
Dry Gas Meter Temp. Tm	Inlet		83	68	52	87	.03	76	hb	<i>Sb</i>	36	36	: 96	69	. 16	46	98	86	. 66	99	100	66	99	90	60	2	
Aux.	Temp.		153	929	233	263	250	252	1255	55C	255	25C	55E	259	P359	190	12	259	258	25%	358	260	1261	200	260	361	Tm =
Impinger	Temp. °F		59	53		59	23	19	64		62	59	59	59	19		8	61	19	62	49	67	65	2	\mathcal{E}'	59	
Temperature EF	Filter			398	1 366	3 26	305	1 263	267	3 262	363	59E ;	42 P	2 263	1 263	1 263	$h\mathscr{H}$	3 264	3 280	725	ER 1	4 264	5 264	O	3 284	S 254	
Temp	Probe		1389	19E	767	28	265	R	263	1263	263	996	2	. 9E	190	2C	59C	263	H	R	13CH	R	2	Z	R	26.	1
Stack	l emp(1s)		897	273	368	293	982	277	27%	282	339	SE3.	B	TLE	273	51E	20	188	188	285	291	78(1381	R	128	250	
Н	Actual		9.1	9.1	1.6	9.1	9.1	97	1.6	9")	9.)	9-1	9.1	9.1	97	97)	9-	9-1	9,]	1,6	01	97	9.1	9)	9.1	9')	$\overline{Ts} =$
ИΔ	Desired		9.1	9.	1.6	1.6	97	97	9.)	9-)	9)	· 9)	9")	7')	9.}	97	9/	9.1	1.6	Ì	1.6	1.6	9.)	9)	97)	9')	$\overline{\wedge H} = \overline{H}$
Velocity	read		40.	ho,	. o4	, o 4	lφ.	40,	Ψō.	H0,	40.	20,	40	<i>40</i>	40.	70,	الم	40"	70,	ż	<u>20</u>	20,	, ο υ	404	۲٥,	, jo	$\sqrt{\Delta p} = \sqrt{\Delta p}$
Gas Meter	Keading	65,820	69. 9	73. (76.8	80.5	o, hA	87.7	91.3	94.8	48.4	h.c01	105.7	109.4	[13.1	8.911	120.4	i'hŽi	127.6	181.4	135,2	138, 8	142.5	146.5	149.8	153.6	
Clock Time		1230	1335	0601	Shel	1350	3581	1306	5081	/310	1315	1330	(3.35	(33%	3881	ohE /	(345	0.581	(355	(1600	50,1	01 1	N 5	othi	lužs	W 30	$\Delta Vm =$
Sampling	Time	0	ريا	10	5)	ot	35	30	32	οh	45	Ş	<i>28</i>	99	69	20	75	40	98	90	96	00)	105	011	115	130	
Traverse Point	Number	0	\	C	~	7	K	O	-	4	5	9		ಹ		m	~	-	Z	0	7	4	ক্র	(2)	=	Ġ	

Plant:

All Middletown Sample Type:

91-1-6

Sampling Location: GM 5v5 HW State
Run Number: C-\$/291-3 Date: 9-7-16
Pretest Leak Rate: 000 cm 100 in. Hg.
Pretest Leak Check: Pitot: C+Orsat: -

30.16 Pbar: _

FIELD DATA SHEET

129 Operator:

CO₂: 3 Probe Length/Type: Stack Diameter:

Page 20 of 2

Meter Box#: 2 Y: /~cos AH@: /~2 Post-Test Leak Rate: 0.00 cfm @ 7 in.Hg. Post-Test Leak Check: Pitot: / corsat: ~ Assumed Bws: \bigcirc Filter #: \bigcirc \bigcirc \bigcirc \bigcirc AH@: \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc AH@: \bigcirc Nozzle ID: Soo Thermocouple #:

		3			Γ					ı	1	1		Γ	T	T -	Τ.	Ι	1	1	T	Τ-	1	1	1
Pump	(in. Hg)	2	W	~,	~	~	~	W	m	~	Λ	~	M												
Meter Temp. Tm	Outlet	42	42	C2	R	20	62	B	93	8	86	93	E												
Dry Gas Meter Temp. Tm	Inlet	44	49	100	80	44	, 00/	, 00/	001	Q	3	00)	00)												43
Aux.	Temp.	560	261	198	121	Z	261	12	262	196	260	260	260												Tm=
Imninger	Temp. F	62	63	CO	er	Ø	59	59	59	59	62	3	Q												
ure EF	Filter	Log	12	P	264	264	R	7964	K	Slow	8	39%	79%						ı.r		-				
Temperature EF	Probe	264	764	596	His	CH.	263	265	365	2 K	3	25	1,9C												
Stack	Temp (Ts)	340	291	287	28%	Lyg	160	305		303	B	140	280			***************************************				Approximate and a second secon					126
	Actual	7.	1.6	9-1	9-1	5.0	<i>(i</i>	9.)	1.6	91	20	(A)	9.1												1.6 $\overline{Ts} =$
ΗV	Desired	9.1	9.1	9.1	1.6	97	9-1	9-1	9.)	9.1	1,6	97	9:1												=HV Ca
Velocity	Head	Jo,	40.	40.	,04	40.	40,	40,	ລຸ	40,	70.	70.	40.												- 'Joso
Gas Meter	Reading	157.3	161.1	0.59)	1.891	172.4	76.3	196.1	1838	9.181	1. J	1.66.1	198.850										***************************************		$\Delta V_{\rm m} = \sqrt{33.030} \sqrt{\Delta p} =$
Clock		1435) ψψο	SHh!	QSh1	255	1900	1505	1510	1915	1530	1535	00												$\Delta Vm = 1$
Sampling	Time	135	130	135	0,51	Sh!	05/	185	091	591	170	176	04	-											
Traverse	Number		Ce	3	5	N	9	-	A	2	Ġ)		20												

Tm = 93

Are Op. John

Job No Filter No	50074.0172
Filter No.	Q7 2458
	** S. C
Sample Head No.	7
Barometer No.	TWC
Balance No.	Dec
•	•
Sealed	
Cooled	
Sealed	
•	* 11
	•
Weight (grams)
nitial Final	Net
1-9 889.6	237.7
26 862.8	70.2
1.6 79516	15.0
2-3 664-5	2.2
10.1 778-	
	3.6
	23.7
11	
	557.0
cleer	351.0
	Sealed Sealed Weight (initial Final 1-9 889,6 2-3 664-5 3-3 664-5

Sample Recovery Data-Nifi.doc



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Plant: AK Miss	1 1/3/2 >	0	10	Sample Type:	ype: 16-203	ع)perat	12		Nozzle ID:		Z Thermo	õ	13-2	
amping r	ovation.		7)		ı	- 1		δ	ı	Assumed Bws:	**	S Filter	332610	0	
Kun Number: 73-202-(er: 55%	T)~600	Date: 8/29/16		CO2: 15/2		111			Meter Box #:	ox 非 い	Y: \	2:993 AH@: 1.906	. 6	(
retest Lea	k Rate: <u>0.</u>	mpo ceen	~	Ą.	Probe Length/Type:			Pitot#: 73-2		Post-Tes	st Leak Ra	Post-Test Leak Rate: @ oct cfin @	$\lim_{z \to 0} \mathcal{S}_{z} $	$_{\scriptscriptstyle 1}\!\!\!/\!$	to to the
Pretest Leak Check: Pitot:	k Check:	Pitot: V	£ Orsat:	St	Stack Diameter:	er: 35.5 ^u	Κ:	05221		Post-Tes	st Leak Ch	Post-Test Leak Check: Pitot: 🗸	+	Orsat: $ \nearrow$ D	100/
Traverse Point	Sampling	Clock	Gas Meter	Velocity	H∇	H		Temperature EF	ture EF	Imninger	Aux.	Dry Gas Meter Temp.	Meter Temp.	dui	
	Time	-	Keadıng	Head	Desired	Actual	Temp (Ts)	Probe	Filter	Temp. %	Temp.	Inlet	Outlet	v actumi (in. Hg)	
0	0	(02H	835,117												
a (Statement	3.29	124-22	837.275	2.5	Ç	1,2	43	263	268	65	30	68	63	7	
7	6:46	15%-39	839, 248	2,3	CETALITIES &	(1)) Joh	260	365	59	3	20	20	35	
m	61.43	[Q452	841.18g	グゴ	. 7	<u>_</u> رو	124	297	365	7.9	ů× CR) (7	2,5	
7	12.53	90- Ecl1	343,117	2, N	~	ς^	118	264	265	29	180	72	22	3.5	
9	16.19	1121-24	845,116	2,0	~	5.7	1 2H	257	264	79	7	73	7.2	200	
9	84.61	1140-43	847.335	2,7	4	(.3	120	257	265	63	ST.	25	F	5	
-(23.13	1199-122	BHG. 35F	بن 60	5.1	٠,	120	366	266	79	34	75	25	25	
.~	88:90	127.21	851.407	ري م.ز	ij	5.5	131	257	776) 9	83	77	76	N.	
~	39,00	区子 万二 万	853.40H	2,4	-		130	256	26H	73	88	24	77	3.5	
	23:28	1255-59	855.420	26	3	3	125	26	96C	59	23	78	22	35	
6	36,40	1310-14	852,427	S.C.	7	दं	127	258	YEN	É	32) X	K	3	
<i>e</i>	ू ५०:०५	25-252	859,450	75.	Ġ	1.2	38	263	796	, <u> </u>	Ø	B	80	35	
	43.36	1845-49	861.448	y Ú			122	256	265	G)	21	22	8	35	
~ ,	26.56	14-04-1	863623	3.0	5	ż	113	26H	366	~2	S.	83	83	7	
	F 0:17	元の元	865.835	3.0	P	15.	30	768	265	09	82	83	g d	3	
	53.47	1506-10	868,100	<u> </u>	ĮĈ.	Ñ	25	265	267	ट	8	8	Z		
	27.07	(SQ 25)	870,215	2.8	ú	ū	<u>S</u>	SE SE	H98	Ç	30	83	83	8,5 7,5	
9	62:33	540-H3	872.418	2.9	ĭ	3	123	764	265	63	74	ВИ	80	3	
	6551	1557-1600	874.6	3,3	. <u>K</u>	Ž	(27	254	262	Ţ	X	83	33		
	67.22	6H-18	876.492	100	5	ڼ	125	26	265	59	28	80	83	Ž	
	75:38	1631-35	824.288	w.	<u>.</u> .	15	<u>2</u>	254	267	2	79	XX	83	Ξ.	
	23.44	1650-53	881.44H	<u>~</u>	ſŪ	ĩ	126	761	265	ls.	Ø	8	Q	3	
K.	76.58	10-901	883.541	2,6	1.3	6.1	126	ેક્ <u>વ</u>	364	62	82	83	£%	r.	
9	8:15	75-5721	885,747	3,0	7	ż	127	36.1	265	61	82	83	8	25	
	83.32 1757-40	0h-421	388.479	3.8	ž		125	260	365	60	28	\$	E	XX XX	
		$\Delta Vm =$	7/2	$= \frac{d\nabla}{\sqrt{c}}$	$\overline{\Delta H} =$	$\overline{T_S} =$					<u>Tm</u> :][
	7	-1. 2	671 25			!				*	1				

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Page 2 of

Pump Vacuum z b 1906 Thermocouple #: 73-2 in.Hg. \mathcal{I} 7 7 I $\boldsymbol{\mathcal{I}}$ 7 7 7 Post-Test Leak Check: Pitot: 2-Orsat: Assumed Bws: 25 Filter #: 832610 5 Y: 2.43 AH@: Dry Gas Meter Temp. 83 Outlet 5 K 78 73 B 8 Z 83 B Post-Test Leak Rate: . col cfin @ Inlet \mathcal{R} 200 Ø. 8 Ø 87 72 8 2 0 ZX Aux. Temp. 80 8 60 S 8 8 R Ø 35 X 83 Meter Box #: Nozzle ID: Impinger Temp. F \mathcal{S} **6**2 5 63 69 e. $\hat{\mathcal{R}}$ Ğ 2 62 ē 65 Ø 265 264 762 265 265 7,7 1,7 598 764 390 365 262 Filter 265 797 Temperature EF 年: インコ 762 259 265 263 Probe 265 200 25 250 260 N K 259 25% 265 261 Run Number: (13-202-1 Date: 8/30/16 CO₂: CEM O₂: CEM Pretest Leak Rate: cold cfm of in Hg. Repland Probe Length/Type: 2/6L Pitot#: Pretest Leak Check: Pitot: Cold Orsat: Stack Diameter: 36.6' K: 0. Stack Temp (Ts) Operator: O O 130 (30 (33 8 200 3 57 33 13 $\overline{6}$ 136 3 _ 2 Ps: Actual 7 Ĩ 0 P <u>=</u> مَ 3 7- $\vec{\lambda}$ ÿ ζ 7. Sample Type: M5-202 30.03 ΛH Desired 12 7 Ī 7 Ξ 7 $\overline{\nu}$ Pbar: Velocity Head ري 0 2.9 30 3.0 80.0 8 \sim $\frac{\omega}{W}$ 2,4 26 26 5 3. Sampling Location: Brahouse Stack 2 405.404 888. 455 894.672 964 CPS Gas Meter Reading 92.830 892.538 903,381 896.769 907.616 911,989 914.263 915,174 901.229 899,217 917.43 24 Sho! 110:07 1231-34 16.58 1258-139 1187-22 134-43 H0-182 13.31 125.48 18:12 (38:42 AKMISAIGAM 130-9151 911-21 123:42 1335-31 45-10) 10:20 27976 128:25 1348-51 Clock Time 8332 1226 Sampling Time 90,13 £:35 08.39 12:52 93:34 91:00 4 Traverse Point Number ž SW Q, Ţ Ø 3 エ

95 E

 $\Delta Vm = 22.(38\sqrt{\Delta p} = 1.6794 \Delta H = 1.36 \Delta Ts = 1.36$

4P= 28282

3= 120 BF

 $\overline{Tm} = \sqrt{2}e^{-\frac{\pi}{2}}$

(B)

Sample Recovery Data-Mandoc

Sample Loc Train Prepa Sample Re	cation <u>Pushine</u> arer <u>E2160</u> covery Person _	Sample Box No Bughouse b	Sample	Job No. Filter No. 8 Head No. 5 H	P-202-1 _050074.01 32610 -1 _Twc.cm FB-2	
Front Half Acetone Container 1		Liquid Level Marked	Sealed			
Filter Container l	No. <u>83</u> 2	610	Sealed			
Description	of Filter	Light gra	y dots			····
Samples St	ored and Locke	d				
Back Half/ Container I	Moisture Vo.					<u>.</u>
		Initial Vol		Weight (gran	ns)	
Imp. No.	Contents ·	·· (ml)	Initial	Final	Net	1 (20)
1	********		488,5	595,0	106.5	+ 100 ml TypetHz2
2 ·	- Marie Carlo	general plane.	675.3	674.8	-0.5	
3	1120	(00	615.2	621.2	6	
4	Silica Gel	2623	435.7	964.3	28-Ce	
5		J				
6 ·					-100.0	
<u> </u>	otal .				40.6	
Description	of Impinger Ca	itch:	Mear			231. Bus

CULTULE	THIC
TYC	DALA
rerer n	

			12 / 20 - 12 / 20 - 1	· · · · · · · · · · · · · · · · · · ·																				***								
13-2	43	1,906	n.Hg. ∠ t:	Pump	(in. Hg)		Ŋ	2	7	5	2	S	6.5	6	9	9	9	5.5	9	4	5	N	М	N	ⅳ	λ	56	9	6	9	5.5	
couple #:	Filter #: 832594	$-\Delta H$	ot: Orsat:	Dry Gas Meter Temp. Tm	Outlet		75	76	%	7	79	80	2(33	83	84	85	85	98	85	85	%	XH	83	87	87	32	<u>@</u>	80°	8	79	
_	2.5 Filter #	Y: 0.993	Post-Test Leak Rate: . 00/c c Post-Test Leak Check: Pitot:	Dry Gas M	Inlet		22	76	77	78	80	8	32	22	Æ	78	85	8	36	35	35,	Z.	ন্ত	83	Ø	88	Ø	Š	&	۲	79	<i>= 1</i>
. D: 0.148	Assumed Bws: 2	Meter Box #: 5	Post-Test Leak Rate: , 00/ Post-Test Leak Check: Pit	ynx.	Temp.		Ø	18	18	8	82	18	20	ول	82	₹	8	83	35	80	2/2	74	K	80	82	<u>%</u>	78	92	天	75	74	\overline{Tm}
Nozzle ID:	Assum	Meter	Post-T Post-T	Împinger	Temp. °F		62	9	લ	19	19	62	60	19	62	63	63	б т	64	\mathcal{G}	ζ4	28	R	B	61	63	وا	57	28	09	61	
			al	Temperature EF	Filter		264	263	362	363	797	264	267	266	३६५	262	.265	% 4	267	S.	258	239	223	270	316	266	उल	738	25	369	267	
23	<i>.</i> 0		Pitot#: 13-2 K: 0,5221	Tempera	Probe		758	262	262	255	255	76(262	263	265	256	797	257	259	256	263	261	092	360	262	560	360	250	32	363	267	
Operator:	98'0-	ŏ	Δ	. ک	Temp (Is)		(0)	117	127	75	138	134	(33	ι3ο	130	<u>R</u>	135	38	13	123	त्र	116	<u>6</u> 1	120	122	$\bar{\kappa}$	124	108	301	101	107	
ζ,	Ps			Į.	Actual		7	1.3	1.3	ૡ	<u>ر</u>	ζ	1.7	15	*. <u>\</u>	١٠6	١	X.	1.5	(2	1.3	1.3	1,3	1.3	اري	7.7	Ĭ.Ś.	<u>.</u> 6	Ñ	13	ير	=ST
ype: MS-2	ar: 30.05	CO2: CEM	Probe Length/Type: Stack Diameter:	ΔH	Desired		7.	<u>.</u>	1.2	1.2	ر در	9.	1.7	ك]	5.1	1.6	9.1	J	Ñ	7.	1.3	.3	1.3	1.3	12	7	1.5	j,	7.	(.5	ij	$\overline{\Lambda H} =$
Sample Type:			Ä	1 5	Head		28	3.6	2.5	2.5	26	3,6	3.5	3.1	<u>~</u>	3.3	3,3	3,5	3.2	2.5	27	2.7	2,6	2.6	2.5	25	3	3,2	3.0	2	3 8	$= \frac{d\nabla}{}$
		ate: 8/31/16		Gas Meter	Keading	417.744	919,843	921912	923.872	925.384	927.905	929.927	932.204	934.465	936.770	939.04H	941.302	943.53म	945.791	948.002	95.201	952.240	954.465	456,634	958.739	962.309	962.990	965.497	962.703	969.987	972.076	
Madletan	Bashouse	P3-202-2 Date:	10 cfm (Pitot:			8	ት <i>≿-020</i>]	13.35-38	12.A.C)	12-1-37	123-26	14-45	1200-Oil	HZ-0221	R58-42	1257-1301	1316-20	1335-381	136-49	1448-52	1454 5 02	512-13	153-59	1373-16	1600-03	1617-21	(34-37	16 -1 -55	128-12	05-621	737-40	$\Delta Vm =$
K MAA	Sampling Location:	ber: <u>PB :</u>	Pretest Leak Rate: .∮0/ cfm Pretest Leak Check: Pitot: √	Sampling	Time	0	3:20	ج م م	е ў	13,19	16:40		23:18	26:41	30:02	35:23	1 HH . 3C	Hoich	43:36	76.74	50:00	3,22	56:50	0:09	63.28	18:52 18:52	70:01	73:49	773,10	80:31	83.44	» ا ٥ °
Plant: A	Sampling	Run Number:	Pretest Le Pretest Le	Traverse	Number	0	_	~	Ś	X	5	٥	1	N	3	T	7	0		7	3	x	У	e		γ	3	*	R	9		AK <

 $\Delta V_{\rm m} = \Delta V_{\rm m} = \Delta V_{\rm m}$

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FIE

13.2	m.rrg. at:	Pump Vacuum	(in. Hg)		7	\checkmark	N	ľv	۲۷	√	9	6	Ś	9	65	Ś	9									
Nozzle ID: 2148 Thermocouple #: 13.2 Assumed Bws: 25 Filter #: 832594 Meter Box #: 5 Y: 0993 AH@: 1.906	Drs Ors	Meter Temp. Tm	Outlet		7R	7.1	N	73	28	72	72	73	77	75	22	1/	7									
78 Thermoc 25 Filter #: 5 Y: 0.99	neck: Pitot:	 Dry Gas Meter Temp. Tm 	Inlet		71	71	71	72	ø	X	73	K	7	26	75	7	8								-	
Nozzle ID: A 148 Assumed Bws: 25 Meter Box #: 5	st Leak Cl	Aux.	Temp.		K	2	22	82	28	0%	8	80	Ø	33	2	28	R		,							
Nozzle ID: Assumed B: Meter Box	Post-16 Post-Te	Impinger	Temp. F		09	Į,	وز	62	09	و۱	62	62	63	62	63	63	h9									
		Temperature EF	Filter		285	366	266	265	26H	265	266	365	83	245	264 264	265	592									
√ —	#: 13-4 05221	Temper	Probe		295	263	596	796	360	260	263	263	260	259	285	263	262									
8 1 9	7 7 7.	Stack	l temp(1s)		9	90	ā	ュ	121	120	122	(20	1.23	133	125	<u>=</u>	[17									•
Ps O ₂			Actual		<u>~</u>	ś	5.	1.3	£3	(.)	1.6	1.6	91	<u>.</u>	1.7	15	i.									
Sample Type: M5-202 Pbar: 30.08 CO2: CEM	Probe Length/13 Stack Diameter:	Ч	Desired		1.3	5:1	Ü	1.3	(.3	1.3	1.6	9'1	9.)	97	2	1.5	<u>اً</u>			-						
Sample Type: Phar: CO2:	\$4 Jrrc \$272 Sta	Velocity	Head		2.7	2.7	2,7	26	2.8	2.8	کار کار	3.4	3.4	3.3	3.5	3.1	3.1									
192 Stack2 Date: \$471/16	J L m.Hg. Orsat:	Gas Meter	Keading	972.301	974,391	976.497	978.575	980.656	982,766	984,870	482,110	989.329	991.624	43,332	996.132	928.551	hts.@co)		2	4	*			-	 ver-elikkinisk	
Paperson	of cim (a)itot:	Clock Time		1020	1220-23	035-38	12-74c	18-21	1(30-33)	, SHEHII			l	(357.1300)			35-14		44 52 78							
Plant: AK Middletan Sampling Location: Bashause Run Number: PB-202-2 Date	uk Kate: 🥨	Sampling	Time	8 3 HH	77.01		43:38		1 81:001	13840			CH-800 HH 611	116.59 11		123:63 [355-39	51.7.61	1	127.2	4						4
Plant: AK Middleta. Sampling Location: Ba Run Number: PB-202-2	Pretest Leak Kate: (4.75) cm (4) Lo in.Hg. Pretest Leak Check: Pitot: 15 Orsat:	Traverse	Number	0	N	3	X	κ	و		7	~	T	r	و		4									

 $\Delta Vm = 82.845 \frac{\sqrt{\Delta p}}{\sqrt{\Delta p}} = 1.7058 \frac{\Delta H}{\Delta r} = 1.41 \overline{R} = 1.21$

Date 9/	K Middlete	ample Box No.	H5B-1	Job No <i>05</i>	202-2	
Train Pren	ocation Push	ng Baghouse	<u> </u>	Head No. 8:	32594	
Sample Re	arer <u>EZ/GD</u> ecovery Person	QF	Вашұлс Ват	ometer No.	H-4	
Comments	M5-202	D	В	alance No.	FA- 2	
Front Half Acetone Container	•			•		
Filter	No8	32594	الماما	/		
Container	INOO	, , , , ,	Sealed			
Descriptio	n of Filter	light a	ry loade	19		
Samples S	tored and Locked	1				
Back Half. Container	<u>Moisture</u> No.		4 2 ·	Acetone/Hon	par j tho	
Liquid Lev	vel Marked		Sealed_	Na		
T . 3.		Initial Vol		Weight (gran	ns)	7
Imp. No.	Contents	·· (ml)	Initial	Final	Net	-
1	MT		506.9	010.2	103.3 IN = 33	FIDD and Type 1 H
2 ·	MT	-	663.7	663.0	-0.3	Type
3	HzO	100	781.4	788.8	4. 4	<u>'</u>
4	Silica Gel	250	917.2	953.0	35-8	
5	0.110001		11600	1000	33.78	-
6 ·						-
-	Total				1120	
•					43.2	_
Description	n of Impinger Cat	ch: el.	er I			
					Bws- 2.48	
				750 q	9.72	
Sample Reco				// S U \		

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FIELD DATA	100

Plant:	AK Middletan	letan		Sample Type:		α(Operator:	73		Nozzle I	Nozzle ID: 0.148		Thermocouple #:	73-2	
۱.⊑	Location:	Bashou	Stack 2	,		[E.			·. ;	Assume	Assumed Bws: 2.5	.1	1 _	32	
Run Number: 913-202-3	ber: PB-	202-3 D	Date: 9/6/16	gre	CO2: CEM		CEM		• -	Meter Box #:	ox #: 0	Y: 0993	JHV	906	,
Pretest Lea	ak Rate:	001 cfm (Pretest Leak Rate: 1001 cfin @ 10 in.Hg.	Pro Pro	Probe Length/Type:		Pitc	: 13-2	,	Post-Tes	Post-Test Leak Rate.	te: our c	(9)	n.Hg.	10 PC
Pretest Leak Check: Pitot:	ak Check:	Pitot: 7	Corsat:	Str	Stack Diameter:	er: 35.9°	۲. X: ۵	5221		Post-Tes	st <u>Leak</u> Ch	Post-Test Leak Check: Pitot:	Vr Orsat:		<u>-</u>
Traverse Point	Sampling	Clock	Gas Meter	Velocity	HV	hypek	Stack	Temperature EF	ure EF	Impinger	Aux.	Dry Gas Meter Temp. Tm	eter Temp. n	Pump Vacuum	
Number	Lime		Keading	Head	Desired	Actual	Temp (1s)	Probe	Filter	Temp. °F	Temp.	Inlet	Outlet	(in. Hg)	
<u>م</u>	0	1026	1,510												
	3:15	12-97c)	3.620	2.9	<u> </u> H1	h'l	00	260	263	65	80	72	28	35	
7	6:31	103E-111	5.649	2.7	1.3	1.3	119	364	350	Ъ9	81	273	23	3.5	
er	4:42	HE-1561	7.785	2.9	<u>ئ</u>	<u> </u>	2	262	257	63	30	74	74	35	
τ.	13.51	120-21	64401	2,9	1	h-)	124	368	264	23	15 15 15 15 15 15 15 15 15 15 15 15 15 1	\mathscr{U}	52	3,5	
'n	17:04	55-KJ!	13.640	3.4	1.6	ازد	128	260	265	6(83	22	92	7	
9	20,20	8H-5H11	14.832	3,3	9	1.6	13.1	264	265	B	22	78	77	7	
	22:38	H0-08	621.77	3.5	17	2-1	i 30	292	592	63	81	82	28	4.5	
~	27:10	1219-33	19.628	35	1.7	1.7	(28	260	365	59	35	79	K	45	
~	30:30	5H-1HZ1	21.887	33	13316	1.6	133	258	262	61	84	Ž!	80	7	
7	38:52	1258-130	2434S	3.7	81	1.0	1 30	H92	267	63	SH.	K K	€2	S	
'n	37:10	1315-30	27.97	32	1.5	1.5	132	257	७७८	63	83	88	82	Sh	
9	मर:क्र	1337-4J	23.749	3.0	h-1	ተኘ	139	262	265	63	81	83	83	3.5	
	43:45	(32.55	31.008	3.1	1.5	(.5	145	260	76M	99	82	34	33	4	
2	47,12	મિના-મેમ	33.185	2.5	12	۲.)	(31	257	h975	09	Ø	<u>&</u> (₩	Μ̈́	
3	50:23	1455-55	35.165	2.5	ارگ	۲.)	148	260	266	(9	ন্ত	突	8H	જ	
, _T	53:38	1509-12	37.378	3.1	1.5	1.5	ί γ ο	263	265	62	Z	84	34	ユ	
12	57:00	82-SCS)	39.580	3.8	(-3	8.7	141	259	366	09	22) NS	₹	35/	
Ć	ht:09	1542-46	41.844	27	చ	.3	之 石	262	362	Z	प्र	Ž	द्ध	3	
	63:40	1559-1603	43,922	2.7	[;3	₹ -1	P. 1.30	263	265	63	8	É	₩ 84	35	
7	66:57	1616-19	46.152	2,7	(3	(,3	137	260	НЭС	6	&	8H	H\$	35	
3	70:15	1633-37	18:34	5,0	<u>.</u>	<u>ম</u>	138	98	30%	89	Ħ	逐	\$	<u>_</u>	
7	73,28	1623	50.521	2,9	1.1	H. 1	137	2.62	365	09	R	₹	Ž	3	
~	76144	11-9-21	hegies	3.0	'n.	ř.	136	259	265	19	K	35	ॐ	Έ	
Ó	78.53	124.38	54.767	30	1.4	1.4	132	263	266	É	K	85	34	7	
	33:11	1735-39	56,96H	3,0	Ξ	<u> </u>	<u>R</u>	263	265	62	28	85	₩.	T	
		$\Delta Vm =$		$=d\nabla \sqrt{c}$	$\Delta H = \overline{H}$	$\overline{TS} =$	11		i		\overline{Tm}				
	44	1 Jun Day 1 = 9	55,454												
		·			-							-1			

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Rage 2 of 2

						M	T	I	_					Γ.		ſ	_	Γ		Γ	Т	T	T	Π-	Τ	Г	T	1	T	т-	T	Madelland
Ç	^	1.906	Orsat:	Pump	(in. Hg)		T	7	-3	4.5	T	A ,	,	7	-3-	<u> </u>	T	7													Add Add Control of the Control of th	
Thermooome #-	. 83258 : 83258	43 AH@	&20/ 5 Q	Temp	Outlet		77	75	75	2/2	77	77	83	XH XH	¥%	85	88	88														
	1.	Y: 09	te: <u>ool</u> tel eck: Pitot:	Dry Gas Meter Temp. Tm	Inlet		52	25	2%	7.6	78	7.8	Ø,	84	98	99	37	22														
Nozzle ID: O us	Assumed Bws: 2.5	0x #: vo	Post-Test Leak Rate: <u>、 ん</u> cfm Post-Test Leak Check: Pitot: 、	Aux.	Temp.		80	80	80	38	80	&	35	35	36	32	83	83														
Novole	Assume	Meter Box #:	Post-Teg Post-Teg	Impinger	Temp. °F		65	62	61	09	9(62	99	92	59	65	Ήg	59														
	Ι,			ure EF	Filter		563	265	266	26H	265	Z	263	368	26b	246	265	265														
0)		Pitot#: 13-3 K: 05221	Temperature EF	Probe		299	264	7F.	263	263	263	29	262	263	263	361	262	•													
Onerator:	-1-			Stack	Temp (Ts)		(02	128	5	150	150	147	30	34		142	145	H														
	Ps	02:	Type: 3 <u>Cir</u> rr: 25.5*		Actual		-9	7.	Į.	İĠ	ن ن	7.	į	در	<u>\s`</u>	ا ر	ارْو	1.5											-			
me: MS-202	T: 20.16	2: CEN	be Length/ ck Diamete	ЧΛ	Desired		i	י,	ヹ	۱۰ (9.1.	7	7	1.6	5.	è	9:	ĭ,	•													
Sample Type:	Pbar:	; CO2;	Regional Probe Length/Type: St Dy 2 Stack Diameter: 35	Velocity	Head		8,8 8,8	2.	2,9	3.4	25	3,1	20	33	بري	33	3,3	2,2					-	-								
_	Stack 2		(l	Gas Meter	Keading	57.22H	9H.H6	81.598	63.70H	65.857	68.180	70.317	72.485	74683	76.755	78,458	81.200	83.393														
1418 + 6141	Barberre	22-3 Da	Pitot: $\sqrt{\frac{1}{2}}$	Clock		1221	H5-1501	10-hch	1116-20	13.2X	HH-141	154-57	156-10	Sp. 24	54-37	97.50	40-10g	61-919										÷				
AK MUSH LOW	Location:	ver: <u>198-3</u>	ak Kate: 02 uk Check:	Sampling	Lime	88.11	98:38	84:46 i	93.01	£6;0€	49:34	122,48	h0:901	109:30	112:25 154-37	115:40 1947.50	118:58	122:14 1616-19														
Plant:	Sampling Location: Barre	Run Number: pg-202-3 Date:	Pretest Leak Kate: $\frac{\partial^2 O_1}{\partial O_2}$ cfm $\frac{\partial^2 O_2}{\partial O_2}$ in.Hg Pretest Leak Check: Pitot: $\sqrt{\frac{1}{2}}$ Orsat: $-$	Traverse Point	Number	0	7	3	π.	r.	9	<u></u>	~	3	2	N	Ğ	-														

 $\Delta Vm = 81.623 \sqrt{\Delta p} = 1.7508 \Delta H = 1.47 Ts = 134$ $\Delta V_{m} = 2.7508 \Delta H = 1.47 Ts = 134$

Description of Impinger Catch:

Date 8/3. Sample Lo Train Prepa Sample Re	cation Prost	Sample Box No. Buy ho	Sample Bare	Job No Filter No Head No ometer No.	0-207-3 050 074.0172 832587 TWC CON
Front Half		Liquid Level Marked	Di	nance ivo	FB-2
Filter Container l	No. 832	587	Sealed	$\overline{}$	
Description	n of Filter	Gray -1	Jey Lg	ht	
Samples St	ored and Locke	d			
Back Half/ Container l	<u>Moisture</u> No.	Ho;	Acetore	1 Heran	2
Liquid Lev	el Marked		A cetve		
I-man No	Contenta	Initial Vol		Weight (gr	ams)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	EMPTY	, <u></u>	489.2	504-6	15:4
2	Empty		676.5	674,7	-1.8
3	DIHZO	100		729-3	6.5
4	Silica Gel	250	968.2	990.6	224
5	Purge this	ω_{l}	100	100	-to0 0
6	, , , , , , , , , , , , , , , , , , ,				
7	Total		.*		42.5

FIELD DATA SHEET

3

Plant: ## Stell - ## Sample Type: 2014/20 t Operator:
Sampling Location: C-lust /on Stack

Run Number: C-PM. Old 10 in. Hg.

Pretest Leak Rate: 0 to 0 in. Hg.

Pretest Leak Check: Pitot: 1 to 0 in. Hg.

Stack Diameter: 168 | K.

Pitot#: Probe Length/Type: L' H Pit Stack Diameter: 168" K:

Thermocouple #: 75-2 cfm @____in.Hg. Filter #: 470923 Y: 1.009 Assumed Bws: 19 Filter #: 4

Meter Box #: 3 Y: 1.005

Post-Test Leak Rate: cfm
Post-Test Leak Check: Pitot: Nozzle ID: 0, 342

					Γ	<u> </u>	···	<u> </u>		T		Ι	<u> </u>		-		T	Γ	<u> </u>	<u> </u>	<u> </u>	Γ	ļ			
Pump	(in, Hg)		_	_		J		-			^	7	Ŋ	9	٦	1)	9	2	n	2	Ŋ	9	7	7	1	7
Dry Gas Meter Temp. Tm	Outlet		77	77	27	76	76	76	26	11	12	82	46	42	26	280	%	18	<u>~</u>	82	28	BY	84	58	BS	è8
Dry Gas M	Inlet		82	27	76	66	22	25	28	29	<u>ි</u>	60	\mathcal{Z}	200	28	83	48	85	38	87	88	87	80	88	83	86
Aux.	Temp.		1.80	92	83	48	58	69	78	84	18	80	62	52	29	52	90	80	80	\ 8	82) o	78	20	183	83
Impinger	Temp. F		89	63	44	63	62	89	60	\$6	15	075	56	85	59	5.5	3	10	61	70	79	62	195	63	00)	6
Temperature EF	Filter		250	750	250	250	250	7 249	252	249	250	250	1221	25D	250	250	250	251	250	260	542	250	250	250	752	25 Y
	Probe		249	247	247	157	250	247	25%	242	251	242	250	157	152	249	249	250	249	248	250	250	757	250	252	250
Stack	Temp (Ts)		256	350	325	349	337	305	م م ا	202	323	339	145	348	36)	३६५	357	369	371	125	365	357	342	353	331	332
ΔН	Actual		0.45	245	0.49	0.45	0.49	0.45	27.9	0.50	0.50	0.50	0.50	840	Ø, ₹	0.48	0. 48	0. 79	0.48	0.48	0.45	0. 4D	0.49	0.48	0.48	0.50
V	Desired		25h 0	0.45	540	0.45	24.0	54.0	24.0	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.5.0	0.50	0.50	0.50	0.50	0.10
Velocity	Head		0.05	0.05	0.05	0.04	0.05	0.05	0.05	0. 0¥	40.0	0.04	0.04	0.04	6.05	0.04	0.05	0.05	40.0	0,00	0.05	0.05	0.55	9,06	8,05	20.0
Gas Meter	Reading	822,400	824.30	826.30	828.15	829.80	931.80	833.7	£35.3	837.5	839.35	, I	84305	93.7	946.7	849.5	250.35		854.3	956.1	858.1	860,07	862.r	864. DT	866,05	Deb. 034
Clock		700)	1007	7001			1027	£60)	1036	2401			8501	1102	103	7711					1637	1143	148		1158	2
Sampling	Time	0	2.25	10.50	15.75/1017		25.75	31.0	36.25	41.00	45.75	50.50		60.80	65,25	70.00	75.25	80.50	46,27	30.50	95.75	101.80	106.25	111.50	116.75	[22,0
Traverse Point	Number	0	-	7	}	'n	\	ن	7	9.0	9	0.9	11	17	-	7	4	٠	5	ىر	7	92	å	Ğ		7

 $\overline{Tm} =$

 $\Delta H =$

 $\Delta Vm =$

C-/240-1

7 skel

Plant: AL Stall
Sampling Location: Clustic Stalk
Run Number: C-Mro-1 Date: 1/6/16 Pretest Leak Rate: o.c. tefin @ 10 in.Hg.
Pretest Leak Check: Pitot:

Pitot#: 15.6 Sample Type: 2014/202 Operator: # CO₂: 3.0 Ps: -0.80

CO₂: 3.0 O₂: (5.0

Probe Length/Type: 6 Pitot#:

Stack Diameter: (68 K: Pbar:

Meter Box #: Y: (169 AH@: 1.88)
Post-Test Leak Rate: \(\warpi \tau \) cfm \(\text{(in } Nozzle ID: 0342 Thermocouple #75. 1 Assumed Bws: 10 Filter #: 470 923

													,			T	1						,	•			1CT	
Pump	(in. Hg)		9	J	M	Μ	W	N	M	M	M	M	N	W	\sim	7	4	-2-	2	2	2	7	8	70)	وا	9	Pro1000	À
Dry Gas Meter Temp.	Outlet		64	80 4-	200	න ත		1	68	£0	80	9	8	6	25	8	26	76	92	la	63	93	93	23	49	かる	1	61
Dry Gas	Inlet		0- 0-	30	16	<i>6</i>	2	26	94	24	56	76	20	25	56	56	56	95	55	2%	96	96	tb	23	26	6)	= 86.8	6
Aux.	Temp.		83	63	28	200	00	<i>Q</i> -	87	000	%	08	 Sa	28	Bı	\bar{a}	g J	28	83	28	18 -	૦ુ	08	08	18	18	$\overline{Tm} =$	
Impinger	Temp. T		65	00)	25	25	<i>ξ</i>	09	ا م	60	61	<u>e</u> -	62	29	63	9	64	65	lele	09	6	ē	19	20)	79	63		15/
Temperature EF	Filter		252	251	251	152	562		251	249	251	249	553	248	562 3	250	248	152	250	256	122	2:50	249	249	251	250		2
Tempe	Probe		252	252	251	250	152	250	2 %	248	152	524	52h	247	246	252	247	147	2,48	252	248	12.1	250	25°	249	251	1.,	75
Stack	Temp (Ts)		ζν ⊙	215	300	300	282	305	301	304	702	316	327	318	312	304	295	582	297	301	302	305	331	319	323	325	326	25%
ΔН	Actual		0.50	050	6,53	0.53	0.54	P2.0	a54	0.54	\$ 57	0.50	0.50	0.50	0.52	0.50	0.60	0.50	0.50	0.52	0.52	0.52	9.48	0.48		o. 9 8	ON TS=	
7	Desired		050	0,56	6.33	0.54	0.59	0.55	2.54	0.54	0.56	0.54	0.54	0.54	0.54	0.53	0.5C	0.54	0.53	0.53	0.55	0.50	0.5	N	0,5/	0.5	HPB VH=	76 27
Velocity	Head		ر د ه ج	0.05	200	70.0	0,04	500	0.05	0.0 %	p.0.0	0.05	0.06	0.055	0,0 50	0.050	0.000	0.050	0-250	0.050	240.0	0.00	0.05	0.05	0.05	0.05	$\sqrt{\Delta p} = 0.24608 \overline{\Delta H} =$	0.2176
Gas Meter	Keading	869034	970. (872.0	874.3	8761	878.8	880,083	882.1	G83.9	885.8	887.3	000000	ļ	, ~	896.3	898.3	900.7	83.4	904.5	906, 3	408.3	9(0,1	9(1.0	914, 1	916,101		52,600
Clock	,	5021	072	1215	1220	1225	(230	552)	c421	. 1	डिट्ट	1255	/300	(38 b	1311	3)(2)	1351	1326	1331	1338	1344	1350	1354	1359	705	1404	$\Delta Vm = 1$	
Sampling			5.25	05.01	15.75		25.25	30.50	35.75	05'04	45.25	50,50	56.25	61.75	1	72.25	77.50			3.25	98.25	02,00	108.25	113,50	18.75	3	_	2 46.00
Traverse Point	Number	0		*	4	y	5	•	2	99	٠,٠	೨	71	7		4	~	حو	ς	دور	7	œ	·5-	G.	<u></u>	5	8.66) 4	100

Plant AK Middle town	Run No. <u>C - PM10 - 1</u>
Date 9/6//6 Sample Box No.	Job No. 0500740172
Sample Location Combustion stack	Filter No. 470923
Train Preparer <u>RF</u>	Sample Head No. SH- 2
Sample Recovery Person	Barometer No. Twe.com
Comments 202	
Front Half 257 PM 210 Acetone PM<25 Liquid Container No. PM>10 Level Marked	
Filter Container No. 470927	Sealed
Description of Filter gray / green loss	rly
Samples Stored and Locked	
Back Half/Moisture C-PM10-1 Container No. BACK 1/2 H20	
Liquid Level Marked	Sealed

Imp. No.	Contents	Initial Vol		Weight (gra	ams)
111p. 140.	Contents	(ml)	Initial	Final	Net
1	Emply	# -	507.2	1060.4	153.2
2	Emply		665.0	6634	-1.6
3	OF H20	100	78818	790.0	1.2.
4	Silica Gel	250	947.4	970.9	23.5
- 5					
6					
r	Fotal				176.3

Description of Impinger Catch:

Bs= 8.31.

FIELD DATA SHEET

Plant: # Samp Samp Samp Sampling Location: Carlustian Stade
Run Number: C-201-2 Date: 4/1/16
Pretest Leak Rate: 2002cfm @ 10 in.Hg.
Pretest Leak Check: Pitot: 1 Orsat: --

Sample Type: 2 | 4/202 Operator: 104

Pbar: 30.16 Ps: -0.75

CO₂: 3 O₂: 15

Probe Length/Type: 6 64 Pitot#: 45

Stack Diameter: 168 K:

Nozzle ID: Q 342 Thermocouple #: 75-3

Assumed Bws: A Filter #: 470 720

Meter Box #: 7 Y: (& 5 AH@: (8 1 Post-Test Leak Rate: cfm @ __ in.Hg.

Post-Test Leak Check: Pitot: __ Orsat: ___

	_ =	ි ක																	Į <u> </u>							
	Pump Vacuum	(in. Hg)		1		1	1	1	-	_	_	1						_		/	_	7	_		7	7
	Dry Gas Meter Temp. Tm	Outlet		20	70	70	20	12	12	77	72	22	22	46	<u>5</u> 2	52	7)/	22	22	22	82	82	78	66	62	6 1
	Dry Gas M T	Inlet		70	71	71	71	22	73	42	52	92	92	22	82	28	80	10	82	82	28	28	28	28	83	02
7	Aux.	Temp.		84	<i>७</i>	84	8Y	84	28	€8	18	62	82	22	2/6	32	92	14	28	28	62	62	64	62	60	(,0
	Impinger	Temp. T		87	7 9	ور	52	55	24	55	55	55	24	84	5.4	26	55	55	56	57	25	25	27	58	28	. s.
	iture EF	Filter		252	251	251	251	250	250	250	244	246	248	157	249	250	250	250	25)	251	251	252	250	25/	249	776
	Temperature EF	Probe		251	250	248	251	252	157	260	747	240	052	253	250	249	249	057	250	249	250	25.1	157	142	253	77/
	Stack	Temp (Ts)		290	356	356	358	362	363	365	366	345	350	335	330	317	297	297	350	155	353	358	358	353	336	770
	H	Actual		0.38	0.35	0.36	0.40	0.45	54.0	0.45	0.48	0.48	0.48	6.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.49	0.49	an c
	Н	Desired		كرفيان	٧٤.0	6.34	0.34	0.34	46.3	0.34																
•	Velocity	Head		0.04	70.0	250.0	0.035	0.040	ch a o		0,040	6.035	0,000	6.040	0.040	0.050	0.040	0.040	0,000	0.035	0,035	0.040	0,000	040.0	0.050	7
	Gas Meter	Reading	950,750	952.9	954.9	955.9	957.3	95	160,7	962.5	964.3	76 p. L	967.9	4.696	971.5	973.4	975.2	977.0	978,8	980.45	1.286	983.9	985.8	987.70	989.6	991.50
	Clock		5689	6839	० ४४५		7580	6580	4060	2060		8160	2260	1260	2460	0937	2442	6660	7560	0956	0001	1005	0/0/	1015	07 01	1,25
	Sampling	Time	0	31.75 C	9.50	14.00 0849	9.50	23.25	28.0	32.75	37.50 (56.25	61.50 0937	66.25 ofte	2. K		80.25 0756	84.75				404.25	1.890
	Traverse Point	Number	0	-	7	4	<u>.</u> بو	\$	و	1	80		93	×	4	-	7	`	7 -	S		7	\$ 0	4	<i>0</i> 1	И

Tm =

=HV

 $\Delta Vm =$

FIELD DATA SHEET

4/2 542 Middle Four Sample Type: 2014/201 Operator: 12 / 16/2
Location: Contay 1-14 5744 Phar: 32.16 Ps: -0.25".

Therefore CO2: 3 02: 15 Sampling Location: Corbustin Stock.
Run Number: C-202-2 Date: 9/7/16
Pretest Leak Rate: _____ cfm @ __in.Hg.
Pretest Leak Check: Pitot: ____ Orsat: ____ Plant:

CO₂: 3 O₂: /5 Probe Length/Type: **5'66**, Pitot#: **P9'2**

Stack Diameter: //66

Nozzle ID: **Q 342** Thermocouple #: **75.2**Assumed Bws: **CO**Filter #: **470920**Meter Box #: **3**Y: **Coop** AH@: **COP**Post-Test Leak Rate: **0.003** cfm **@ 10** in.Hg.
Post-Test Leak Check: Pitot: **12** Orsat: —

			l		l		1	i	Т	r—		1	T	1	1	T			Γ	T	1	1 -	1	T		т—	1
Pump Vacuum	(in. Hg)		Ŋ	Ŋ	h	Ŋ	h	Ŋ	7	7	N	2	IJ	7	٦	7	12/	[]	M	ļ							
eter Temp. n	Outlet		90	80	<u>a</u>	00	18	2000		83	83	83	8 3	å	200	t Ø	r æ	85	58						***************************************		
Dry Gas Meter Temp. Tm	Inlet		BK	83	87	84	85	18	20	Pla	8	20	607	28	88	87	20	87	607	3							eg G
Aux.	Temp.) g	82	83	28	81	18	Bo	60	62	28	0 0	90	Ro	8 (18	<u>ه</u>	18	Lest A							$\overline{Tm} =$
Impinger	Temp. F		teo	62	63	85	256	56	2.5	58	28	55	50	25	5.9	(6)	62	00	62	Leng .							
ture EF	Filter		251	248	2 ¥B	642	152	248	250	251	052	052	22	251	250	152	152	0.572	252	75 1		-					
Temperature EF	Probe		250	248	250	250	248	24c	250	254	242	452	250	248	2:53	757	2 5°c	253	251	$\mathcal{U} \Delta \mathcal{V}$	-						١
Stack	1emp (1s)		307		261	304	307	298			6	293				289	245	217	714	me tou	1						405 =
н	Actual		0.48	0,48	0,48	0.46	0.40	D. 46	6.46	0.45	550	55.0	540	0.45	550	0.45	0.45	0.45	24.0	-					A delication and a second and a		= STACK
ΔH	Desired		٠					•												17 11 - 6					and the same of th	23 Mag	$=H\nabla$
Velocity	Head		aoto	0.0%	ch 0.0	0,050	0.040	0.040	0.040	0,040	0,040	0 h 0 0	0,040	0,050	0.040	0.075	04010	0,00	0,040	x to 20t						4000	$A = a \sqrt{c}$
Gas Meter	Keading	842.686	995, 1	9916.9	298.6	2000	4.200	1004.2	0.000	607.7	24.800	1011.3	12.6701	L. 4.7	totle.4	1018 100	(Securion	018/120	-	Jacous went		20					30.10
Clock		0201	1601	5 <i>€ 01</i>	444	1046	,			1109 /	7	6111	1124	1139	1134	1139	1144	1 6.611	<u></u>			スーノる					$\Delta Vm =$
Sampling	Time	-	4.75	9.50	<u> </u>	19.50		29,00	33.75	38,50	52'Eh	48.00	53.25	Co 95	6200	80'L")	23:50	76,76	81.50	- (Sc. 561)	1010					
Traverse Point	Number	o		7	3	4	5	و	7	B	6	01	1/	71		٨	长3	3-	>	و	7	0	'5→	g#		14	

0.457 E2

Cottos 62

Plant A	+ Steel	Mrddleto w	<u> </u>	Run No.	(-)02-2
Date 9/7	116	Sample Box No. F	1513-1	Job No.	50074-0172
Sample Loc	cation Cov	whuster St	zich	Filter No.	470 920
Train Prepa	irer <u>J</u>		Sample	Head No	DUC-con
Sample Rea	covery Person	72A	Bare	ometer No	MC-con
Comments	Meth	uds 2014/	202 Ba	ilance No	<u> </u>
Front Half	-3 -1mio	Liquid Level Marked			
Filter Container I	No. 470	2920	Sealed		·
Description	of Filter	Black			
Samples St	ored and Lock	red			
Back Half/I Container N	<u>Moisture</u> No	2 420	; Acel	one the	oune
Liquid Lev	el Marked				
y 3.T	~	Initial Vol		Weight (grams)
Imp. No.	Contents		Initial		

Imp. No.	Contents	Initial Vol	Weight (grams)											
mip. No.	Contents	(ml)	Initial	Final	Net									
1	44		508.0	637.	124.1									
2			665.3	663.5	-1.8									
3	Hze	100	790.0	793.6	3.6									
4	SG	250	9869	955-8	189									
5														
6														
T	otal		2900,2	3045.0	144.8									

Description of Impinger Catch:	 lear.	
	 •	•

FIELD DATA SHEET

Plant: Ak Shell Middle form Sample Type: 2014/202 Pbar: Sampling Location: Co. Sostrio Stack.
Run Number: (-202.3 Date: 9/1/1/e.
Pretest Leak Rate: 0.00 rofm @ 12 in.Hg. Pretest Leak Check: Pitot: 12 Orsat:

CO₂: **3** O₂: **15**Probe Length/Type: **5'Ch.** Pitot#: **45.2**Stack Diameter: **16.9 "** K: 36.16 Ps. -0.23 Operator:

Meter Box #: 7 Y: 6 of AH@: 684
Post-Test Leak Rate: cfm @ in.Hg.
Post-Test Leak Check: Pitot: Orsat: Nozzle ID: 0.342 Thermocouple #: 75.2 Filter #: 470 922 Assumed Bws: 10

 $\Delta V_{\rm m} = \frac{1}{42.639} \sqrt{\Delta p} = 0.1949$

 $\Delta H = 0.50 | T_S = 326$

Tm = 89

FIELD DATA SHEET Page 2

USUL Sample Type: 2014/202 Plant: HL Zheek www. Run Number: C-262-3 Date: $4/7/l^2$ Pretest Leak Rate: — cfm @ — in.Hg.
Pretest Leak Check: Pitot: — Orsat: —

10.7 Operator: Ps: Pbar: 30.16

CO₂: 3.0 O₂: 15.0 Probe Length/Type: 6.64π Pitot#: 95-7Stack Diameter: 168"

Meter Box #: 2 Y: 1009 AH@: 1890 Post-Test Leak Rate: 2002 cfm @ 10 in.Hg. Post-Test Leak Check: Pitot: 12 Orsat: Nozzle ID: 9.42 Thermocouple #: 75-7 Assumed Bws: 40 Filter #: 2470922

			1														<u></u>					<u> </u>				
Pump	(in. Hg)		Ŋ	J	Ŋ	9	N	2	7	2	W	M	η	W	~	N	N	W	W	W	N	W	W	N	D	Ø
ter Temp.	Outlet		20	76	2	26	92	25	20	72	26	25	83	83	93	8	93	8	Ø	36	36	Z	hb	25	44	74
Dry Gas Meter Temp. Tm	Inlet		12	75	46	75	55	25	25	56	75	25	35	22	56	9	9/6	%	%	52	86	8	26	6	77	16
Aux	Temp.		28	28	86	20	58	85-	45	84	80			82	83	28	- 6D	28	83	83	84	85	84	84	83	28
Impinger	Temp. T		65	29	9	Q	60	19	(23	55	5,5	59	90	(CO	00)	00	19	(0)	62	62	63	63	10)	60	56
ature EF	Filter		250	251	244	157	548	251	157	250	248	757	152	152	247	252	249	252	157	152	250	249	250	052	24-7	757
Temperature EF	Probe		325	250	752	752	152	250	250	250	250	5 A &	152	952	250	250	152	250	622	952	250	157	257	872	6hC	252
Stack	lemp (1s)		262	308	308	330	350	320	339	340	745	351	243	345	322	331	324	325	331	258	338	330	345	343	339	330
Н	Actual		2.0	0.5	0.5	5.0	0.5	0.5	2.0	0.5	0.5	0.5	0,5	0.5	12.0	0.5	0.5	0,5	0.5	0.5	2.0	2.5	0,5	0.5	2.5	5.0
ΔН	Desired		5.0	50	٥. ير	٦٠٠٥	0.5	0.5	0.5	5.0	0.5	0.5	0.5	0.5	0.5	6.5	2.0	0, v	0.5	0.9	5.0	0.4	0.5	0.5	5.0	2.0
Velocity	rlead		0.04	P.0.0	0.04	٥.0٠	0.04	40.0	0.035	0.035	0,000	0.040	0,035	0.040	0,000	04040	0.035	0.035	o. Oto	0,000	0,040	0,00	6.035	0.035	6.030	6.035
Gas Meter	Keading	1964.619	1666.5	1068.3	1.0201	1071.95	1073.7	1075.Ca	1677.3	0.670/	1080.9	1082.6	10844	1086.2	0.8801	6 66 6	1091.5	1093.2	1095.1	16%.9	78201	100.5	1102.3	0.7011	5:5017	1107.1820.035
Clock Time		1413	07 /2	1425	1430	1436e	1,44,1	D)H H [0	1651	1456	(585)	5051	1510	1515	1520	1525		1534	1539	1847	1540	1554	1558	16.02	16.0kg)/e
Sampling	1 ime	0	4.75	05'6	14,25	79.80	23.75	28.50		37,50	42.25	0426	51.50	56.25	8/10	66,75	70.25	74.75		84.25 1	3	93.75	38.25		SL. 10/	
Traverse Point	Number	0	_	٦	۴	5	^	و	7	00	g	63	2	5	•	د م	۲	,	5	و		00	6	9)		5

 $\Delta V_{\text{III}} = \frac{\sqrt{2.56^{3}}\sqrt{\Delta p} = 0.0744 \quad \Delta H = \frac{0.0007}{0.504} = \frac{357}{0.504}$ 9330 VI

Tm= #92 FC

Sample Locarda Preparamental Residual Preparamental Residual Preparamental Preparament	cation <u>Con</u> arer <u>EZ/GD</u> covery Person _	Sample Box No. 1 12-11/20 Stack DA 201A		Job No	2-202- 50074-0 832609 SH-11 Twe	470 9	72
Front Half Acetone 3 Container 1	7/2 pm 7 7 2.	Liquid Level Marked	Sealed		g ×		
Filter Container l	No. 4709	22	Sealed			*	
Description	n of Filter	Black				9	
Samples St	ored and Locke	d				77. V.S. V.S. V.S. V.S. V.S. V.S. V.S. V	is
Back Half/ Container l	<u>Moisture</u> No	tho.; l	Acetone 1	Hessan	e	(5)	
Liquid Lev	rel Marked		Sealed	J			
Time NTo	Contents	Initial Vol		Weight (grams)		7
шр. 140.	Contents	· (ml)	Initial	Final		Net	
1	_	-	519,5	718-4		198.9	
2 ·		-	658.8	658-4		-0.H	
3	1120	(ap	676-4	6790		26	
4	Silicabel	2509	913.7	932.0		18.3	
5							
6 ·							
]	Cotal				6	2 A.H	
Description	of Impinger Ca	itch:	Cle	ev			1



Company: AK STEEL	City: MIDDLETOWN
Date: 8/23/16	Location: COKE BATTERY BACHOUSE STACK
Time: 1021-1509	Run No: <i>P-15-1</i>
Meter No: VB-1	Orifice, CC: 19 ec
Barometric Pressure, in.Hg. 29.95	Operator: BF
Ambient Temperature, EF:	

VACUUM LEAK CHECK DATA

	Initial, in.Hg	Final, in.Hg	Time, min
Pre-test Post-test	25	25	1.00

	5174121	STUP	Meter	-	Dry gas	
Sample	Clock	time,	volume,	Rotameter	meter	Vacuum,
time, min	(24	-h)	liters	Setting	temp. EF	in.Hg
0.0	1021	1025	7626.88	19 cc	75	25
3.25	1032	1036	7626,95	19	81	25
6.25	1045	1049	7627.02	19 4	82	75
9, 83	1/13	1117	7627, 13	19 ca	84	2.5
13.50 .	112G	1129	7627.29	19 00	85	25
17.00 .	1142	1144	7627.38	1912	85	25-
20.75	1200	1204	7627.48	19 cc	85-	25
24,50	1219	1223	7627.53	19cc	85	25
28.25	1239	1243	7627.57	1916	85	2.5
31.75	1256	1300	7627.59	1966	87	25
35.50	1316	1319	7627.61	19cc	88	25
39, 25-	1334	1337	7627.62	1960	89	25
43.0	1352	1353	7627.63	1900	89	25

 $V_{\text{std}} = V_{\text{m}} \text{ liters } x \text{ } Y \text{ } x \text{ } 17.647 \text{ } x \text{ } \frac{P_b, in. Hg}{Tm, R}$ 0.750 liters plane

Company: AK STEEL	City: MIDDLETOWN
Date: 8/23/16	Location: COLE BATTERY BACHOUSE
Time: 1021- 1509	Run No: P-15-1
Meter No:/&-/	Orifice, CC: 19 cc
Barometric Pressure, in.Hg: 29.95	Operator: BF
Ambient Temperature, EF:85°F	<u> </u>
<u>VACUUM LI</u>	EAK CHECK DATA changed to 80cc or the
Initial, in.Hg	Final, in.Hg Time, min
Pre-test 25 Post-test	25 /.00

Samula	START STUP Clock time,	Meter	Datamatar	Dry gas meter	Voorvure
Sample time, min	(24-h)	volume, liters	Rotameter Setting	temp. EF	Vacuum, in.Hg
46.25	1442 1446	7627.64	80x Hec	89	
50.50	1452 1456	7627.86	80cc	90	25 - 25 -
54,25	1505 1509	7628.07	80 cc	93	25
		7628-33			
			·		

 $V_{std} = V_{m} \text{ liters x Y x 17.647 x } \frac{P_{b}, in. Hg}{Tm, R} \quad \text{ang :}$ $1.46 \text{ liters x Y x 17.647 x } \frac{P_{b}, in. Hg}{Tm, R} \quad \text{ang :}$

FIELD DATA SHEET

Sample Type: 29.45 Sampling Location: Reghove 1
Run Number: P-15-1 Date: 8-33-16 Pretest Leak Rate: cfm @_in.Hg. Pretest Leak Check: Pitot: Middletwan

CO₂: O₂: Probe Length/Type: 3'6L Pitot#: $\overline{13}$ $\overline{6}$ Stack Diameter: 35.5'' K: Operator:
Ps: -1-1

Post-Test Leak Rate: cfm@ in.Hg.
Post-Test Leak Check: Pitot: t Orsat: Y: 1.010 AH@: 1.791 Thermocouple #: Filter #: Assumed Bws: 1.5 Meter Box #: // Nozzle D:

19	, John			1	1			1		I			,	B	105	E.	9,0	2	10	0	8	8	80	3	
Pump	(in. Hg)	1/4	-													۲			~~~						7
eter Temp.	Outlet	2	~	5	~	X	7	N	7.	200	X	8	8	Ø	63	B	68	-							
Dry Gas Meter Temp.	Inlet	0/	77	72	56	72	78	Z	22	28	X	66	S	80	2,2	CZ	23								
Aux.	Temp.	NA				The state of the s	outrometros	-Aramet-ga		The state of the s		The Option of the Option			plainte communicações									anagan a Andreas	>
Impinger	Temp. T	NH	, ₄ 0				ann phairinn							STEEN HALL	v		>					guarge at male of	Committee of factors of the second of the se	Winds de La Constantina de La	>
Temperature EF	Filter	260	55 C	360	261	388	258	255	362	254	358	360	25%	190	360	260	250								
Temper	Probe	260	956	260	259	8.S.C	Hi	257	Lo	1450	B.89	261	259	259	358	156	260								
Stack	Temp (Is)	¥ G	(1)	(1)	118	137	127	121	126	126	131		127	ā		76)	26				1				
ΑH	Actual								-																
7	Desired																			•	•				=
Velocity	Head	3.5	3.5	7,7	4.0	3.7	3,5	3.5	3,3	3	3.6	3.2	3.2	/ځ	3.0	5.3	3.3								HOH'S
Gas Meter	Reading															-			,			•			
Clock		301-E01	1035 - 1036	1045-1049	1113-1117	601-901	7531·27111	HOC1-00C)	1219-1233	(17) - KG	(356-1300)	1316-1319	G34-120	352-1385	1410-146	M53-126	6.59-15 09	1520-1634	1540 - 1543	(657 - 1601	4 191 - 11171	453-jest	מורו-רסרו	1732·1726	
Sampling	Time																								
Traverse	Number		L. L																						

TO VIII = $\frac{1}{\sqrt{2}} = \frac{1}{\sqrt{2}}$

Tm= NA

Company: Ak STEEL	City: MIDOLETEUN 47MM
Date: 8/24/2016	Location: LOKE BATTERY BACHOUSE
Time:	Run No: P-15-2
Meter No: VB-1	Orifice, CC: 19cc
Barometric Pressure, in.Hg: 29.97	Operator: BF
Ambient Temperature, EF: 85°F	

VACUUM LEAK CHECK DATA

	Initial, in.Hg	Final, in.Hg	Time, min
Pre-test	25-	25-	1,00
Post-test		·	

	START	STOP	Meter		Dry gas	
Sample	Clock	time,	volume,	Rotameter	meter	Vacuum,
time, min	(24	-h)	liters	Setting	temp. EF	in.Hg
0	1027	1031	7628.54	19ac	76	25
3.75	1040	1044	7628,65	19 cc	ファ	25
7.50	1054	1058	1628.75	Kee	71	25
11.00	1107	1111	7628.84	1400	78	2.5
14.50	1124	1128	7628.95	1964	71	25
18.25	1139	1142	7629.07	1966	80	25
21.75	1158	1201	7629, 21	1900	81	25
25.50	1217	1221	7629.33	Mac	83	25-
29.10	1234	1240	7629.37	1900	85	25
32.75	1253	1259	7629.41	19 cc	87	2.5
36.50	1314	1318	7629.43	1900	89	25
40.25	1333	1336	7629.45	1900	91	25
14,00	1350	1354	7629.47	1900	92	25

$$V_{std} = V_m$$
 liters x Y x 17.647 x $\frac{P_b, in. Hg}{Tm, R}$

Company: AK STEEL	City: MIDOLETOWN	
Date: 8/2\$//16	Location: LOLE BATTERY BACHO	USE
Time: 1027-1509	Run No:	
Meter No: VB-/	Orifice, CC: 19	
Barometric Pressure, in.Hg: 29.97	Operator: BF	
Ambient Temperature, EF: 85°F		
VACUUM LEAK	K CHECK DATA	
Initial, in.Hg	Final, in.Hg Time, min	
Pre-test Post-test		

Sample time, min 48.0 51.75	5/APT Clock (24 1438 1453 1506	570P time, h) /442 /459	Meter volume, liters 7629.72 7639.94 7630.13	Rotameter Setting 19c4 19c4	Dry gas meter temp. EF 7/ 92	Vacuum, in.Hg 25 25
59,00			763035	1966	92	25-
				•		
·						

 $V_{\text{std}} = V_{\text{m}} \text{ liters } \times Y \times 17.647 \times \frac{P_b, in. Hg}{Tm, R}$ and $G_{\text{H}} = V_{\text{m}}

DATA	
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A SHEET 7 EQM Middleton

Plant: /4//	HK Tocation		Canton #	Sample Type:	ype: 77/5	Operator:	35	18/	Nozzle ID:	Nozzle ID:	Thermoc	Thermocouple #:	17.6	
Run Number: 0-15 2 1 Pretest Leak Rate: cfm	ber: O^{-1} ak Rate:	in the state of th	A-24 m.Hg.	9	Length/Type:	02: 3 6 Pitot#:	#: 73.2		Meter Box #: Post-Test Lea	Meter Box #: 1/1 Post-Test Leak Rate:	Y: /	10 AH(@	M(a): (1,79/) in.Hg.	
			O Date	3		1			0 T -100 T	or Lecans C	ucck, riiot,			
Traverse Point	Sampling 	Clock	Gas Meter	Velocity	ΔH	Stack	Temperature EF		Impineer	γmx.	Dry Gas M	Dry Gas Meter Temp. Tm	Pump	<u> </u>
Number.	Time		Keading	Head	Desired Actual	Temp (Ts)	Probe	Filter	Temp. TF	Temp.	Inlet	Outlet	(in. Hg)	(
														11111 Ş
		1027,1631		3,7		65		260	114	NA	74	×	NA	H
		10th - 1/4		3.5		(g)	N	1261	4		96	75	-	× ×
		105H-165B		3.5		115	260	261			75	36	***************************************	B
		1111 - 1011		3.7		(17	20	260			77	12		8
		\$201. _{[6} 2]		3.5	,	411		260		***************************************	R	77		To the state of th
		1139 - 1142		3.5		119	CHE CHE	261			28	18		8
		1081-8511		3.6		IM		120			(a)	38		
		(B - LI-C)		3.4		116		261			79	78		T
		1336-1240		3.6		(17	260	260	**********		79	29	\	1
		1255 - 1359		35		1/8	200	H			79	79		1
		1314-1318		{ }	m and a second	120	1	198			80	20		
		1333 71336		24		10	T	265	-		18	Ø		<u> </u>
		1350-1354		3.3		121		264			18	/8		
		1438.	1	3,4	1	9//	257	258	-		82	82		100
		1455-	-	3.4	111111111111111111111111111111111111111	1/6	258	795			83	83		102
		15.00-		3,4		125	259	261			83	83	E-2-1-00	8
							+	270			83	€3-	*	
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 $\sqrt{\Delta p} = 1.8655 \quad \overline{\Delta H} = 1$

 $\overline{Ts} = 17$

 $\overline{Tm} =$

 $\Delta V_{III} =$

Company: AK STEEL	City: MIDAETOWN Should
Date: 8/25/2016	Location: COLE BATTERY BAGHOUSE
Time: 1028 - 1509	Run No: P-15-3
Meter No: <u>/B-/</u>	Orifice, CC: //
Barometric Pressure, in.Hg: 30.30	Operator: BF
Ambient Temperature, EF: 90°F	

VACUUM LEAK CHECK DATA

	Initial, in.Hg	Final, in.Hg	Time, min
Pre-test Post-test	25	75	1,00

	START	STUP	Meter		Dry gas	
Sample	Clock	time,	volume,	Rotameter	meter	Vacuum,
time, min	(24	-h)	liters	Setting	temp. EF	in.Hg
0,0	1028	1031	7633,20	19 <=	83	25
3.75	1	1046	7633.32	1900	83	25
7.50	1054	1058	7633.39	1900	84	25
11.25	1123	1126	7633.42	19 00	85	25
15.00	1134	1137	7633.44	1400	86	e5-
18.75	1145	1149	7633.52	1900	87	25
22.50	1159	1203	7683.59	19cc	90	25
26.75	1218	1222	7633,67	1900	92	25
30,00	1238	1241	7633.72	1900	92	25
33.75	1257	1300	7633,98	1900	93	25
37.50	1316	1319	7634.16	1946	94	25
41.25	1335	1338	7634.50	1900	94	25
45.00	1350	1354	7634.71	1900	14	25

$$V_{std} = V_m \text{ liters x Y x 17.647 x } \frac{P_b, in. Hg}{Tm, R}$$

Company: AK S	reel	City: MIDDLE	TONN
Date: 8/25/2016	<u>(e</u>	Location: Cour	BATTERY BAGHOUSE
Time: 1028- 15	709	Run No:	5-3
Meter No: VB-/		Orifice, CC:	19
Barometric Pressure, in	n.Hg: <u>30.30</u>	Operator:	37-
Ambient Temperature,	EF: 96°5		
	VACUUM LEAI	K CHECK DATA	
	Initial, in Hg	Final, in.Hg	Time, min
Pre-test Post-test			

	T		I		1	1
	517AP2T	SNOP	Meter		Dry gas	
Sample	Clock	k time,	volume,	Rotameter	meter	Vacuum,
time, min	(24	4-h)	liters	Setting	temp. EF	in.Hg
48.75	1435	1439	7639-94	1900	98	25 ⁻
52.50	1445	1452	7635-19	18cc	100	
56.25	1506	1509	7635.40 7635.50	1900	100	25-
56.25 59.75			7635.50	Acc	100	25
		-	0		_	
			2.30 life	ላ <i>አ</i>	uy= 91.7°	E F

 $V_{\text{std}} = V_{\text{m}} \text{ liters x Y x 17.647 x } \frac{P_b, in. Hg}{Tm, R}$

3 12 33	Pump Vacuum	(in. Hg)					700																			7
# \(\frac{1}{\gamma} \)	71397	Outlet (in.		6	47	Z	8.2	7	<u></u>	~		7	\ \	19	800		2	Roman								
coup i. fin a	n ete	Inlet Ou	\$ \\ \text{\alpha}\\ \al			82 8				<u> </u>	827					18	W.	63 89								82
Vs: 15 F : 11 X :: 11 X :: 11 X :: 11 X :: 12 X :: 12 X :: 13 X :: 14 X :: 14 X :: 14 X :: 14 X :: 15 X :: 15 X :: 15 X :: 15 X :: 16	Aux. Dry		8	82	8	<u>-</u>	a	M	ω	8	QQ	<u>~</u>	28	Z)	B	Š	X	8	À							$Tm = \frac{Tm}{T}$
Nozzle ID: Assumed Bws: 15 Meter Box #: 14 Post-Test Leak Rate: cl	Impinger		5				- C			2	***************************************								- Victoria							
$\mathcal{U}_{\mathbf{I}}$		Filter Te	267	366	<i>K</i> 8	268	S. J.	H.	267	dis.	204	264	30	205	C. C.	358	364	20%								
TA SHEET.		Probe	262	204	20	266	He	12	266	263	262	263	<u> </u>	266	B	M		795								-
FIELD DATA SHEET Operator: M//S. Ps: -, 60 O2: -, 60 S: 6L. Pitot#: 73-6	7 5		, (C)	707	116	125	130	131	981	130	80%	130	129	130	/25	95/	28	132			•					Ts= 124
] [Actual Millim	100														**************************************					consistence of		tolana British	-	X
); je '		Desired [[[]]]	+Q.			-	***************************************	······································					GATZAUA (NO		der meiner zur ernen, g	ognosta og trans										= 75
Sample	Velocity Head		2.0	20.00	27	2.6		7.7		200	36	2,8	2.9	26	9K.	80	26	36								10 = 0. 47 × 10 = dv
Saskove Date: 9-35	. Gas Meter Reading																									
_ <u>2</u> 2	Clock Time		ICOL SCH	**************************************	1054. 16.55	103-106	113/1-1137	1145 - 1199	1159 - 1203	EEC1-8/E	1238 / D41	1357-130	1316-1219	135-158	1350-1354	M-55-104	1449 - 1454	1506-151D					·			$\Delta Vm = -$
FQM Plant: Sampling Location: Run Number: [5-3] Pretest Leak Rate: cf Pretest Leak Check: Pitot:	Sampling					, a manufacture of the second																				
EQM Plant: Sampling Loce Run Number: Pretest Leak R	Traverse Point	Number				***************************************																				/4

Company: AK STEEL	City: MIDDLETOWN
Date: 8-29-2016	Location: COMBUSTERN STACK
Time: 1024 - 1124	Run No: <u>C-15-1</u>
Meter No: <u> </u>	Orifice, CC:
Barometric Pressure, in.Hg: 30.//	Operator:
Ambient Temperature, EF: 90%	

VACUUM LEAK CHECK DATA

	Initial, in.Hg	Final, in.Hg	Time, min
Pre-test Post-test	25	25	1. 50

		Meter		Dry gas	
Sample	Clock time,	volume,	Rotameter	meter	Vacuum,
time, min	(24-h)	liters	Setting	temp. EF	in.Hg
0	1024	4432.86	15 oc	87	25
5	1029	4432.94	1	91	
10	1034	4433,02		73	
15	1039	4433,10		94	
20	1044	4433.18		96	
25	1049	4433.26		97	
30	1054	4433,34		98	
30 35	1059	4433.42		99	
40	1104	4433.50		/00	
45	1109	4433.58		10/	
50	1114	4433,66		102	
<i>\$</i> 3^	1119	4433.74		103	
60	1124	4433.85		163	

 $V_{\text{std}} = V_{\text{m}} \text{ liters } \times Y \times 17.647 \times \frac{P_b, \text{in. Hg}}{Tm, R} \text{ Im } = 97$

		AH@: 1.687	in.He.	Orsat:	Pump Vacuum	(in. Hg)		Š	0	0	0	0	0	0	0	0								-										7
Thermocouple #:	1	١.	1 @	/ 	Dry Gas Meter Temp. Tm	Outlet		72	21	73	13	74	75	22	78	78			,															•
Thermo	Filter #:	1	1 %	Pøst-Test Leak Check: Pitot: 🗸	Dry Gas M	Inlet		75	77	22	80	83	85	86	88	8	- Characteristics																18	
	d Bws:	β _{0,7} #. Σ	st Leak Ra	st Leak Ch	Aux.	Temp.		١	\	1	١	1	١	١	1	١																	$\overline{Tm} =$	
Nozzle ID:	Assumed Bws:	Meter Box #:	Post-Te	Post-Te	Impinger	Temp. F		15	77	25	25	28	36	n	2	59												enous 2		41 70			West to control of the control of th	
1BF		ı			ture BF	Filter		١	١.	1	1	į	1	\ 	1	\				-														
78/12	7 (12			Temperature EF	Probe		1	١	•	1	١	١	1	ı	1												-						
Operator:	s: -0, 85 t		7 Class Pitot#:	Κ: - -	Stack Temp (Ts)			257	252	352	350	058	350	727	062	2.58	250	25.70	152	22.0	apt	522	527	230	225	250	257	857	257	250	244	243	222	
	30.11 Ps:	\sim		er: /68"		Actual		1.5	1.5	7.5	1.5	15	in	1.5	1.5	1.5				,													15 TS=	
7pe: Mal	30.		Le	ck Diameter:	AH.	Desired		7.5	5.7	7.5	51	1.5	1.5	1.5	1,5	1,5														3			=HV	
Sample Type:	Pbar:	12016 CO2:		Stack	Velocity Head			200	0.04	0.05	50.0	0.06	0.0%	20.0	0.05	9.05	0.05	0.06	0,03	6.04	0.04	0,05	0,06	20,0	0.05	200	0.00	6.04	0,04	6.05	50.0		$\sqrt{\Delta p} = 0.2123$	
•		_"	Į.	Orsat:	Gas Meter Reading	181 /81	6/6.670	679.5	683,7	1.289	- 4	4	697.3	7.007	7.401	707.7														and the control of th			31.01 √∆	
•	Combustion	ũ •		Pitot: /	Clock Time		-	<i>a</i>	\rightarrow		11/		1	1059	HOII	6011																	$\Delta Vm = 1$	
AK A	Sampling Location:	ber: M.	retest Leak Rate:	retest Leak Check: Pitot:	Sampling Time	5	0	S	0	7	20	25	30	35	8	25																	٠	
Plant:	Sampling	Run Number: M.	retest Le	retest Le	Traverse Point	Number		7	1	W	*	Ŋ	ی	1	7	u	4	N	و۔		~	n	7	r	e-	1	7	M	Ļ	r	7			

Plant AK MINDLE TOWN	Run No. C-15-/
Date 8/29/16 Sample Box	No Job No. 050074,0172
Sample Location Computation	Filter No.
Train Preparer OT	Sample Head No.
Sample Recovery Person CJ	Barometer No. TWC. Cor
Comments <u>44</u>	
Front Half Acetone Container No. MA Level Mark	ked Sealed
Filter	
Container No.	Sealed
Description of Filter	
Samples Stored and Locked	
Back Half/Moisture Container No// (A	
Liquid Level Marked	Sealed
Initial V	Vol Weight (grams)

Imp. No.	Contents	Initial Vol		Weight (gran	ns)
шир. 140.	Comens	(ml)	Initial	Final	Net
1	H20	100	802.2	854.6	52.4
2	H20	100	784.7	787.9	3.2
3	, <u></u>	e	669.5	670.0	0.5
4	SG	250	942.1	958.1	16.0
5					
6					
T	'otal				72.1

Description of Impinger Catch:	9	re	1	

Company: AK SHEEC	City: MFDDLETOWN
Date: 8/29/2016	Location: Compustron STACK
Time:	Run No:
Meter No: $VB-Z$	Orifice, CC: 15 ac
Barometric Pressure, in.Hg: 30///	Operator: BF
Ambient Temperature, EF: 90°F	

VACUUM LEAK CHECK DATA

	Initial, in.Hg	Final, in.Hg	Time, min
Pre-test Post-test	25	25	/, 50

		Meter		Dry gas	
Sample	Clock time,	volume,	Rotameter	meter	Vacuum,
time, min	(24-h)	liters	Setting	temp. EF	in.Hg
0	1135	4433.87	15ac	104	25
5	1140	4433,96	į	105	5
10	1145	4434.08		105	
15	1150	4434,17		106	
20	1155	4434.28		106	
25	1200	4434,40		107	
30	1205	4434.49		107	
35	1210	4434,58		107	
40	1215	4434.69		107	
45	1220	4434.82		107	
50	1225	4434.93		107	
53	1230	4439.10		107	
60	1235	4435-21	\	107	<i></i>

 $V_{\text{std}} = V_{\text{m}}$ liters x Y x 17.647 x $\frac{P_{b}, in. Hg}{Tm, R}$ $\sqrt{m^2}$ follows:

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d	Ş				•	,		<u> </u>						
Plant: AK Sampling Location:	AK Location:	TSVGMD!	NO 11 SV	Sample Type: Pbar:	ype: MoiSTv#	ᅀ	Operator: %		75	Nozzle ID: Assumed Bws:	D: To Bws:	Thermo Filter #	Thermocouple #: Filter #:	
Run Number:	ber: M	,)ate: 8/19	72016 CO2:	12:	02:				Meter E	Sox #:	Y: 60	05 AHG	1.697
Pretest Leak Rate: 0.010 cfm Pretest Leak Check: Pitot: ,	ak Rate: 6 ak Check:		@ 5 in.Hg.	Prc Sta	Probe Length/Type: 7'60% Pitot#: Stack Diameter: /6 6' K:	Type: 7'6 r: /66'	Pitot# K:			Post-Te	Post-Test Leak Ra Post-Test Leak Ch	Post-Test Leak Rate: 0.001 cfm @ Post-Test Leak Check: Pitot:	音/ (a)/ (a)/ (c)/	Orsat:
Traverse Point	Sampling	Clock	Gas Meter	Velocity	Нγ	I	Stack	Temperature EF	ire EF	Impinger	γnx.	Dry Gas M	er Temp	Pump
Number	O	78/1		Tiesd	Desired	Actual [][][][][][][][][][][][][][][][][][][]	Temp (1s)	Probe	Filter	Temp. %	Temp.	Inlet	Outlet	(in. Hg)
_	2	04//	7113	40.04	/. S	.5	22.9	\ \ !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	, , , , , , , , , , , , , , , , , , ,	63	#	83	78	-
1	0/	9411	714.7	40.0	1,5	1.57	787	١	1	7 9	1	87	48	
~	18	05/1	2812	49'0	15	1.5	167	1	ı	9	١	88	48	7
7	2	1155	721.6	0.04	1.5	1.5	285	١	1	0 9	١	88	82	4
~	26	1200	725.0	50'0	1,5	1.5	780	١	1	27	١	89	28	1
4	20	1205	728.4	50.0	1,5	1.5	122	\	\	85	•	90	83	2
	n	1210	73/.8	0.03	7.5	7.5	1221	١	1	g	ţ	7.5	83	w
7	40	1215	135.1	0,03	1.5	1.5	250	١	١	54	١	93	4	2
N	5 h	2221	138,66	6.04	3.1	1.5	249	,	١	57)	hb	85	n
7	•			0.05			242							
٧,				90.0			242							
-9				90.0			942							
/		·		0.03		-	542		-					
7				po.0			042							
N				40.0			238							
7				ho'o			787							The state of the s
5				20.0			230							
9		***************************************		0.03			313							
7				0.03			310			,				
4				0.03			309	•						
60				6,03			308	-						
h				6.04			307							
S				40.0			306							
\				40.0		-	306							
			,	0	30 86									
		$\Delta Vm =$	30.78	1000 = dV	$I = H \sqrt{\frac{N}{N}}$	1,5 T _S =	272				$\overline{Tm} =$	<i>98</i> =		18%
			1	10.045 L	Loto.					0000001 most) >
		•		•	,									

Plant A Mco o control Run No. C - 15 - 7 Date 8/29/16 Sample Box No. Job No. 0 50074.01 Sample Location Confluence Filter No. - Train Preparer Sample Head No. 7	
Train Preparer AN Sample Head No. 7	
Sample Recovery Person Barometer No Two.com	
Comments Balance No. 2	
Front Half	42
Acetone Liquid	
Container No Level Marked Sealed	
and the state of t	
Filter	
Container No. Sealed	
Description of Filter	
Samples Stored and Locked	
Back Half/Moisture	
Container No.	
· ·	
Liquid Level Marked Sealed	
Tim No. Maight (grams)	
Imp. No. Contents (ml) Initial Final Ne	et
1 H20 100 758.8 8148 56	.0
3 - 661.8 664.0 2.2	
4 56 250 939.5 946.2 6.7	
5	
6 ·	
Total	
Description of Impinger Catch: 9 rey	_4:
Description of Impinger Catch: 9rey	- .M

Sample Recovery Data-M5.doc

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METHOD 18 SAMPLING DATA

Company: AK STEEC	City: MTOQETOWN
Date: 8/29/2016	Location: COMBUSTION STACK
Time: 1245-1345	Run No: <u>C-15-3</u>
Meter No:	Orifice, CC: /5
Barometric Pressure, in.Hg: 30.1/	Operator:
Ambient Temperature, EF: 90%	

VACUUM LEAK CHECK DATA

	Initial, in.Hg	Final, in.Hg	Time, min
Pre-test Post-test	25	25	1.00

		Meter		Dry gas	
Sample	Clock time,	volume,	Rotameter	meter	Vacuum,
time, min	(24-h)	liters	Setting	temp. EF	in.Hg
0	1245	4435.26	15	106	25
3	1250	4435.35	1	106	
10	1255	4435,43		105	
15	1300	4435.52		105	
20	1305	4435.61		106	
25	1310	4435.72		105	
30	13/5	4435,80		105	
35	1320	4435.90		105	
40	1325	4436,02		104	
45	1330	4436.14		105	
50	1335	4436,22		105	
53	1340	4436,30		105	
60	1345	4436,41	(105	!

 $V_{\text{std}} = V_{\text{m}} \text{ liters x Y x 17.647 x } \frac{P_b, \text{in. Hg}}{T_{\text{m}}, R} \overline{T_{\text{M}}} = 105$

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N. Contraction	
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FIELD DATA SHEET	

ple #:	l	1,005 AH(2): 1,687	a in.Hg.	Ö	Femp. Pump	Outlet (in. Hg)		87	1 68	1 88	1 83	1 88	1 0.	1 06	1 10	, ,			,													
Thermocouple #:	Filt	2 V: 1,006	ate: cfm (a)	k: Pito	Dry Gas Meter Temp.	1		8 9	8 00	8 26	3 76				6 001	6 001																
ë Di	ະຕິ	Meter Box #:	Post-Test Leak Rate:	est Leak C	γnx.	Temp.		1	\	١	1	1	1	•	1	1																
Nozzle ID:	Assun	Meter	Post-T	Pøst-T	Îmnînger	Temp. T		N	N	2	29	00	19	1	62	62																
Ds/BE		İ			Temperature EF	Probe Filter		1)	1	1	,	1) -	1	1																
Operator:	48 10		: 7'6/455Pitot#:	" K:	Stack			3/1	312	310	308	CAE	908	617	112	275	273	212	111	260	159	269	768	253	260	263	797	25.0	357	283	157	
MOISTUFE	L FS		1/Type: 1/	ter: /68	НΔ	Actual		51	1.5	1,5/	15	57	51	5"/	51	1.5																
(Ype: 100)	ı	CO ₂ :	Probe Length/Type:	Stack Diameter:	7	Desired		1.5	511	1.5	1.5	15	51	51	51	51						·										
Sample Type:			Pr	St	>-	Head		20.0	80.0	0.03	D.04	0,05	0.00	0.03	0.13	6.04	0.04	0.05	6°00	0.03	0.03	0.03	49.0	h0.0	0,05	0,05	0.04	60.0	50'0	28.0	70.0	
6 1/41		Date: 8/19/10/14	2 D in.Hg.	√Orsat: <u></u>	Gas Meter	Keading	738,85	742.3	14517	749.1	752.5	756,0	759.5	1629	766.4	16,691					_											
1 carle 16 14).000 cfm (: Pitot: 1/	Clock		5HC1	1250	1255	_		1310	1315	1320	1325	1330																
AK	Sampling Location:	Run Mumber: 17-3	Pretest Leak Rate: 0,000 cfm @	Pretest Leak Check: Pitot:🍾	Sampling	Time	0	5	10	15	70	25	200	35	40	45	B															
Plant:		3 Run Mum	Pretest Le	Pretest Le	Traverse Point	Number		/	7	n	7	R	e	~	7	N	μ̈́	7	9	/	2	r	h	7	3	7	7	W	4	8	9	

40.

Sample Loc Train Prepa Sample Rec	orercovery Person _	EDWN Eample Box No IBUSTON STAT I MY	Sample Baro	Filter No.	-15-3 0074.0172
Front Half		Liquid Level Marked			•
Filter Container N	No		Sealed	,	
Description	of Filter			 	. ,
Samples St	ored and Locked	1			
Back Half/I Container N	Moisture NoN	+			
Liquid Leve	el Marked		Sealed		
Imp No	Contonto	Initial Vol		Weight (gra	ms)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	H20	100	813.9	880.7	66.8
2	Hap	100	782.5	789.1	lack

Imm No	Contonta	I IIIIIIII VOI		11	/	
Imp. No.	Contents	(ml)	Initial	Final	Net	
1	H20	100	813.9	880.7	66.8	
2	H20	100	782.5	789.1	616	
3			669.9	6713	1.4	
4	SG	750	947.6	9547	7.1	
5	•					
6		,				
	Total				81.9	

Description of Impinger Catch: ______

Bw=11.32

NBF



EOM Environmental Quality Management, Inc.

02 20.656 Co2 0.456 80 502 502

CEM CALIBRATION DATA SHEET

Company: Pk Postion: Project No.:

Ar Steel

hong Baghouse

Operator: Dev 8/

Doug Allen 8/23/16

							N.	-							76.0			7					
o Paris	Cymnaer 140.				CC 44343	CC443447			C443447	25/16 HH 20			CC 73518	CC736 79		4	CC66 198	SC9134953BAL				v.	
n 3	%Bias					= 2													Stro	35	944	1456	6051
Post Test Run 3 Response	%Drift																		らなって	1353	(443)	45,2	15051
Pos	%/wdd	Time:		2		9													C S S	13	Ы	<u>\</u>	(1,
n 2	%Bias	1515				-			in 1										Sho	5/hc1	005	1330	1777
Post Test Run 2 Response	-	508-	-							81									Shit	1239	1256	36	4551
P	%/wdd	Time: /	hot o			31.823	0.164		11.04/	o	19.94		18247		0.34	1	43.78		Reash	6	0)	Ξ	- 2
11	%Bias	1913			11					e .								1 / Les	不	1139	1/1/6	p021	1233
Post Test Run 1 Response	%Drift	205-13																	Sport	9611	183	1 200	12/9
PC	%/wdd		6,23			31.85	0,18		11,10		8.0-		184.8		0.56	t	43,9		Reish	1	و .	,	82
Calibration Response	System	S	0,176) .	590:11	21.837	0,346	1	11.077	31.994	0.33	١	185.50	447.36	0.55	(44.93	82.68					
Calib	Direct	Time: OK	E81-0	1	11.138	32.069	211.0	١	18308	2 2.169	1.08	. 1	189.61	456,54	6,14	١	44.38	21.88	Shi	1075	1037	101/9	I Z
Cal Gas	Conc.		0	J	11.02	21.89	ာ	1	11.23	21.94	0)	6.051	8-454	0)	74,88	89.09	SPACY	-	5500	ahai	113
2	Gas		Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	Resth	-	- 1		, 7
Pollutant/	Range/	Inst. ID	Ş	70				5			,	3	V		5	2				The Tay	Averages		

I months Response Time

 $\overline{\mathrm{EOM}}$ Environmental Quality Management, Inc.

5h.h 205 05h.0 20 05h

Average

CEM CALIBRATION DATA SHEET

Company: Location: Project No.:

AUSteel Austring Bugliouse 050074. 0172

Operator: Date:

Doug Aller 8/24/16

Orling Mo	yminer 140.								1 5 5 5							C			5g	1354	ching	459	
	%Bias				_				N. C.				5						55×				1506
Post Test Run 3 Response	%Drift									V.		10		28				١	Party.	13		S	9)
Po	%/wdd	Time:								H 1								,	Shot	one	19501	1318	1337
n 2	%Bias																		REAKY Start	12.56	(25)	13.14	1333
Post Test Run 2 Response	%Drift	150 a					9							3.0			45	1	Reak	0	0	Ξ	7
Pc	%/mdd	Time:	4000			21.729	0.309		10.968		067-		183.75		ر ع		44,04						
11	%Bias	S. S. S. S. S. S. S. S. S. S. S. S. S. S								¥2							Θ		Shop	我二	143	100	1861
Post Test Run 1 Response	%Drift									*	÷								SPUT	hell	1139	1164	Llei
Po	%/wdd	1-	35.0			2178	0.15		11.0		0.55		186.1		6.0		44.4	8	Persi	12	o	-	8
ation	System		081.0		10.986	21.783	0.193	6.7	11.077	71.829	101		186.87	79.84	18.0		44.97	87.50					
Calibration	Direct	Time:	0.234		11.113	1984	0		11.101	12.051	10.04		189.74	455.81	-0.44		43.25	97.68	2 400	1631	10/10	850	1111
000	Conc.		0	1	70,11	21.89	0	F	11.33	76.16	0	1	190.9	4540		J	88 hh	89,09		1	Ohal	10501	1/8/1
[5]	Gas		Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	Q P	-	4	n	7
Pollutant/	Range/	Inst. ID		2			Ę	CPL			(}			505			A. O.		A Second	Avorages)	

EQM Environmental Quality Management, Inc.

Averages 02 20:463 50 33.05 502 0:463

CEM CALIBRATION DATA SHEET

PUNHUN \$50074 Company: Location: Project No.:

Rushouse 0 (73 SHEEL

Operator: Date:

-	Cymnder No.											0			8								
13	%Bias				1														Sh,	13/27	1439	1452	1609
Post Test Run 3 Response	%Drift																		THE S	1350	1435	617/1	1200
Po	%/wdd	Time:		্ব	×				2:					12				200	本	2	, <u>1</u>	5	9)
n 2	%Bias																		Stay	inei	1300	1319	1338
Post Test Run 2 Response	%Drift	270																	Starx	1338	1361	13/2	1335
PC	%/wdd	Time: [0.195		-	21.639	e B		10,873		-3.87		179.14		0.99		43.86	4	草	5	0/	-	9
-	%Bias									ri)									Stop	1137	1149	1203	1993
Post Test Run 1 Response	%Drift	1223																	Shut	11.34]	145	1159	1318
Po	%/wdd	Time: 12	0.33			31.62	0,25		10.9		-2-1		184.1		0.3		44.6	1	蓝	5	9	<i>(</i> -	8
ation	System	7.	0,233	1	10.992	21.731	0.341)	11,030	31,766	21.0-	1	184,33	697Lhh	9.00)	45.14	88.35					
Calibration Response	Direct	Time: OE3 4	0.193	l	11,021	21899	145	1	11.046	21.894	-0.25	1	186,90	484.97	-0.78)	45.06	L1:06	Sign	1031	9101	105%	1(36)
Cal Gas	Conc.		Q	١	11.02	21.89	0	ſ	11.23	76-94	0	١	190,091	454.8	0	١	88.44	89,09	くなっと	820	1043	FS01	1123
	Gas		Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	華	-	6	fr	5
Pollutant/	Range/	Inst. ID		20				9			(3			Ç)		10-re- 1	Troot	3	Averages		

EQM Environmental Quality Management, Inc.

CEM CALIBRATION DATA SHEET

Company: Location: Project No.:

Control Start

Operator: Date:

Aller 8/24/16

Cylinder No. %Bias Time: 1245-1345 Post Test Run 3 Response ppm/% %Drift 21.744 10,940 0.163 0.353 2,99 %Bias 35-1235 Post Test Run 2 Response %Drift 21.60 34 %/wdd 5220 5550 00. Time: -0 %Bias - 1124 Post Test Run 1 %Drift Response Time: 109 イ 0.167 %/wdd 10.813 7.669 2850 110 21.756 2/827 System 11.05 3 h50'0 681.0 0.19 Calibration Response Time: 0845 3000 1000 Direct HOCE 0.193 (1.125 20,0 0,188 Cal Gas Conc. 701 8 High | H/94 0 0 0 High Mid Zero Mid Zero Low Zero Low Cal Gas B Z Pollutant/ 0 Range/ Inst. ID

195,52

191.56

188,36

19.5

18/161

3

Mid

Low

50%

High

449.96

D. 79

0001

186.18

186.31

186,73

W 28

2000

6001

Mid High Zero

Low

449.10

45744

8,654

0,20

0

15.158

236.40

2.738

55.07

202

Averages

502

0

15.175

00

15643



	9		1.791	ig	Prima	Vacuum	(in. Hg)		۸.	-							_		8	^	_												1
	#: 73-6		$\Delta H(Q)$:	10 in.Hg.	D D	~ × ·	II)		<i>(</i> 7)	س	М	3	5	\sim	^	امنا	\sim	\sim	(4)	" \	~	\sim	~										
	Thermocouple #:	,] - !:	10 10 AH	@**	Tem	u u	Outlet		2	73	56	76	22	79	74	8	18	18	\mathcal{Z}	84	Bi	38	8	87									
	Thermo	Filter #:	Y:	Post-Test Leak Rate: . ool cfm	Dry Gas Meter Tenn.	Tm	Inlet		70	7.3	74	76	78	79	80	18	18	93	83	18	25	eks Ka	22	27									
	. 152	5:7 :s	1.1	Post-Test Leak Rate:		_	ıp.		4						· ·								3	~			•					-	
		Assumed Bws:	Meter Box #:	Fest Lea Fest Lea		Aux.	-			, ,						-	-	*					,										
	Nozzle ID:	Assur	Meter	Post-7	-	Impinger	Temp. T		B	9	79	50	3	Š	8	62	2	E	$\widetilde{\mathcal{C}}$	0	E	0	E	Z O									
		I		۲۵.		iture EF	Filter		204	265	366	267	269	25	267	365	265	366	365	260	498	795	267	266		-							
SHEE	N		اکر	#: 132	<u> </u>	Temperature EF	Probe		796	15E	<i>390</i>	260	261	252	263	355	Ki.	H	Æ	382	365	J. J. J.	₹%	265							-		;
FIELD DATA SHEET	Operator:	7 / .	30,	Pitot K		Stack Temp (Ts)			3	[05]	106	[[0	1/2	511	[16	ils	130	31	33	25			28	25									
FIEL	Op	_ Ps: _	02:	м.					8.1		For	f.3	6	2.0	Ó			-			\ . \	6	. /	1		,							
•	113K	0,23	0,3	gth/Type:		H	Actual		1.	<u> </u>	1.9	. f.	j. 0	R	(8	2.0	0.0	6.	9	1.0)	7	Q.))									
	Ì	1	2:	Probe Length/T. Stack Diameter:		-	Desired		1.8	1.5	9	<u>(</u> .4	1.4	2.0	2.0	20	2.0	j.9	Q	1.9	1.9	67	١٩٠	(}								-	
	Sample Type:	Pbar:	CO_2 :	Pro Sta	2	Velocity Head	2000		3.4	3.5	3.6	3.5	3-7	3.8	3.8	3.0	3.4	3,6	3.7	7	3.7	37	3.6	1.5									
Z	i ii		8-30-16	انع	-			(•	1 '					ι~ <u>1</u>	τ.)					-									
	farm	- 6	'	Sin.Hg.	O' O'	Gas Meter Reading		497,493	500.051	511.00	11:19-1122 505.060	507.615	Sio. 252	512. BSO	515.548	514.073	530.951	523.616	576.515	135-1338 529, 357	530.615	533.333	636.476	538.465	•								
	AK Middletam	Bughovio	-/ Date:	cfin @	_	Time	-		pe01-2001	1043-134 502-773	9-1122 5	1134-1110 S	S HORI - IDE!	211-12N 5	1,221-1221	5 kti-180		254-1302 S	2 9151-3181	5-1338 5	345-1215	36-1351	FIG-136	١. ا			1.						
		tjon <i>f</i>	1-316-1	ite: ¿🐠	1 1 1 1 1 1 1	Sampling	-		3:28 102																								
	1	g Loca	mber:	Leak R	C TO		7	0	ές.	6:54	10:3B	13:55	(7:25	55:00	26:46	137:37	31:00	CH/HZ	120	65:1/2	UB:3(47:00	50:33	\$ 1									
	> Plant:	Sampling Location	Run Number:	Pretest Leak Rate: (201 cfin @ 3 Pretest Leak Check: Pitot: 14 Check:	Traverse	Point	Number.	0	**** <u>**</u>	CR	n	7	5	9		K	3	1	v	9	agentine"	4	n	-J,	5	9	}	a	5	7	\ \ \	C	
	Ç		. J	\tilde{k}													' <u> </u>	<u>. </u>				1	·	·		4	2	L		1	I	1	

AVE 00 = 3 6563

Plant AK	- MIDDLE	TOWN		Run No/	0-3/6-1						
Date 9/3	soll s	ample Box No		Job No	0074.0172						
Sample Lo	cation <u>fushi</u>	19 Bughouse		Filter No	NA						
Train Prepa	irer of		Sample	Head No	5						
Sample Re	covery Person	BP	Baro	meter No	Twc. com						
Comments	316		Ba	ilance No	FB-2						
	P-316-13	Liquid Level Marked	Sealed								
Filter											
	No.	V4	Sealed	NA							
Description	ı of Filter	NA									
_		7									
Samples Stored and Locked											
Back Half/Moisture Container No.											
	el Marked		Sealed	NA							
*											
		Initial Vol	•	Weight (gr	ams)						
lmp. No.	Contents	· (ml)	Initial	Final	Net						
1	+(10=1110	100	789.1	794.8							
2 .	TYPE 1H20	100	761.9	763.7	10						
	TYPE 1 H20	100		1 4	18						
3			652.1	653. G	1.5						
4	S C1	250	918.9	927.6	8.7 1						
5											
6 .					,						
г	Γotal				177						
,			<u> </u>	1	1 (1)						
Description	n of Impinger Ca	tch: \mathcal{C}	cal ?								
25 000115 0101	- 0.2 mpmg-1 0.5		-	125							
					. •						
		•			.' *						

<u></u>
(T)
protestal.

FIELD DATA SHEET

2	Assumed Bws: 1.5 Filter #: $\frac{1.50}{1.00}$ AH@: 1.79/ Meter Box #: 1.79/ Y: 1.00 AH@: 1.79/ Post-Test Leak Rate: 0.00 cfm 0. 3 in.Hg.	Ö	Dry Gas Meter	Temp. Inlet Outlet		1/4 70 70	2		25 25	76 75 3	77 76 3	N 77 3	80 78 3	8 8 3	82 8/ 3	1 83 83 3	97 83 3	84 84 3	5 SS SS 3	86 85	$\frac{\otimes}{\mathcal{L}}$								>	Tm= 79 /	
Noz	Assi Met Post	Post	Impinger	Temp.		65	\mathcal{C}	9		Ü	<i>S</i>	<u>\$</u>	V V	E	G	6	0	C	6	0,	10										
	l Ami		Temperature EF	Filter		S	365	36.1	82	260	Hoe	264	263	R	263	B	J. L.	SE	B	2	J.C.)		-				 ·				
3	. 13-6	562	Tempera	Probe		264	361	258	H9C	264	26,	263	263	360	762	CH	264	264	Z	263	Sey		-			-					
Operator:	s: - 1 1 2: CEM 3/4. Pitot#:	K: . 5	Stack	(ST) dimp (TS)		32	3	601	105	108	110	į (S	0%)	123	(25		123	121	121	123	126								`	 	
2	_건 O.	ter: 35.6"	VΗ	Actual		3	Ŕ	2.0	3.0	ē.	2	2.0	20	C.	ر ا	6.9		2.	5	4.										1.96 TS	
	Poar: 30.05 CO ₂ : でだっ Probe Length/Type:	Stack Diameter:		Desired		Š	<u>C</u> ġ	ý. Ĉ	ە رۈ	5	Same of Same	20	°C	2,0	2	1	2		<u></u>		-		-						1	1.9372 TH=	1
Sample Type:		St	Velocity	lleau (111111111111111111111111111111111111		3.9	29		2€	3-7	3.6	3.8	3.8	3.9	5.7	3.7	3.7	3.7	Ľ,	3,										$\sqrt{\Lambda p} = \sqrt{1.91}$	
dos	e: \$-31-16 10 in.Hg.	£ Orsat:	Gas Meter	Neading	539.343	<u> </u>	760	547.393	550. 133	552.875	55.619	508,308	561.087	63.547	099'9	569.443	572.246	676.037	577. Suld	580.545		S						-	/	41.203 V	
lepun	Sampling Location: (1946) Run Number: (2) 3/6-3 Date: (2-3): Pretest Leak Rate: (30) of n (2) in.Hg.	Pitot:	Clock		1020 5	1620 - 0Cal	1035-1034 SUH.	1044-1052 5	1161-1107 5	1103-1106 54	555 Shil - IMI	55 HORL-300	5 MB-0C()	1239-1240 563.597	1357-10° 566.	1316-1330 56	235-1336 5	13 MO - SHEY	1.45 1.450 5.7			82mm/tes	~							$\Delta V_{III} = \frac{V}{V}$	
AK Midd	Sampling Location: Run Number: 7.3/6-3 Pretest Leak Rate:000 cf	Pretest Leak Check: Pitot:	Sampling	Time	٥,	5:36	6:59		13:56	1 98:11	<u></u>	34:36			3.5	36:47	42:30 j	1 cs.5h	19:36	bh. 29		18,82	,								
Plant:	Sampling Run Numl Pretest Lea	Pretest Le	Traverse Point	Number	0	**************************************	8	3	t	5	9		C	3	J	2	* ~3	-Marketon A	2	~		S	9	-	C	~	 5	9			

the Op= 3.753)

Sample Location Posking Bayhouse Filter No. MA Train Preparer CT Sample Head No. 54-3	- 2
Date 6/3 1/16 Sample Box No. 58-7 Job No. 50074, Sample Location Pox Long Bay Louse Filter No. MA Train Preparer S Sample Head No. 54-3	11.70
	01/2
Sample Recovery Person ba Barometer No. w c.,	· ·
Sample Recovery Person % Barometer No. w c., Comments 316 Balance No. 2	
Front Half Acetone Liquid Container No. Level Marked Sealed	
Filter AAA	
Container No. Sealed	
Description of Filter	
Samples Stored and Locked	
Back Half/Moisture Container No. 2 151 2N 9 Sept. 3N 9	
Imp. No. Contents Initial Vol Weight (grams)	
Imp. No. Contents military of Tritial Final	Net
1 TYPE 1 4.0 100 7618 7690	
1 TYPE 1 H20 100 161.8 169.2 7	4 /
2 - 1720 1720 1720	4 /
2 TYPE 1 H20 100 776.9 779.3 Q.	41
2 TYPE 1 H20 100 776.9 779.3 Q. 3 — 689.1 689.7 DU	4 /
2 TYPE I H20 100 776.9 779.3 Q. 3 — — 689.1 689.7 D. 4 SG 250 906.1 916.4 10.	41
2 TYPE I HZO 100 776.9 779.3 2. 3 — — — 689.1 689.7 D.1 4 SG 250 906.1 916.4 10.	4 /
2 TYPE I HZO 100 776.9 779.3 2. 3 — — — 689.1 689.7 D.1 4 SG 250 906.1 916.4 10. 5 — — — — — — — — — — — — — — — — — — —	4 V 6 V 3 V
2 TYPE I HZO 100 776.9 779.3 2. 3 — — — 689.1 689.7 D.1 4 SG 250 906.1 916.4 10.	4 V 6 V 3 V
2 TYPE I H20 100 776.9 779.3 2. 3 — — — 689.1 689.7 D.1 4 SG 250 906.1 916.4 10. 5 — — — — — — — — — — — — — — — — — — —	4 V 6 V 3 V
2 TYPE H20 100 776.9 779.3 2. 3 — — — 689.1 689.7 0.0 4 SG 250 906.1 915.4 10. 5 — Total 201.	4 / 6 / 3 / 7 / W

Sample Recovery Data-M5.doc

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FIELD DATA SHEET

Perator: <i>MP</i> Perator: <i>MP</i> Porazle ID: . (Assumed Bws: CEM CEM Meter Box #: Post-Test Leak K: . 556.2 Post-Test Leak Nozzle ID: . (Meter Box #: Post-Test Leak Nozzle ID: . (Meter Box #: Post-Test Leak Nozzle ID: . (Meter Box #: Prope Filter Temp GS 100 350 360 360 360 360 360 360 3	<i>?</i>
Perator: WP Nozzle ID: . 153 -1. Assumed Bws: 1.5 CEM Meter Box #: 11 L. Pitot#: T3-6 Post-Test Leak Rate: R 1562 R 1562 R 1562 R 1562 Post-Test Leak Rate: Post-Test Leak Rate: Probe Filter Temp. F Temp. 100 350 360 360 360 360 360 360 3	1
Perator: 0P -1.1 CEM CEM CEM CEM CEM CEM CEM CE	$Tm = \frac{7}{2}$
Perator: 0P -1.1 CEM CEM CEM CEM CEM CEM CEM CE	T.
Perator: (VP -1.1 CEN CEN CEN CEN CEN CEN CEN CO Stack Temperatu Stack Temperatu Too 353 105 353 110 110	
Perator: - 1. 1 - 1.	
Perato Perato Perato Perato Pit R: Pic Pit R: Pic Pit Pit Pit Pit Pit Pit Pit Pit Pit Pit	ار '
	#1
2 8 8 6 6 6 6 6 6 6 6	=ST_C0.10
	$=H \triangle H = \frac{1}{2}$
Sample Sa	$\sqrt{\Delta p} = \frac{1.964}{4}$
2000 Stack Date: 2-1-1 Date: 2-1-1 L Orsat: -1 Cas Meter Reading 581.030 Sp3.735 Sp4.675 Sp4.6	<u> </u>
ation: Brahouse 54 2-3/6-3 Date: 6-3 Sate: 2021 cfm @ [0 in.H] Check: Pitot: Jt Orsat: Gos Meter Time Clock Gas Meter Time Cloc	$\Delta V_{m} = V_{m}$
ution: It is a series of the	. •
Plant: AK Sampling Loce Run Number: Pretest Leak R Pretest Leak R Printest Leak R Printest Leak R Printest Leak R Printest Leak R Point Number 2 22 2 24 2 24 2 25 2 24 2 25 2 24 2 25 2 24 2 25 2 24 2 25 2 24 2 25 2 26 2 26 2 26 2 26 2 26 2 26 2 26	

33.6A

Ave DN= 3.8813

Plant A	K Middler	own ample Box No. 5 y Baghouse		Run No P	-316-3
Date 9/1/	//6 S	ample Box No.≥	<u>ゅ ユ</u>	Job No	50074-0172 NA SH-5
Sample Loc	cation <i>Public</i> e	y Bughouse		Filter No	NA
Train Prepa	rrer <u>BA</u>		Sample	Head No	SH-5
Sample Red	covery Person 🧘	şF	Bar	ometer No	Twe.com
Comments	314	,	Bi	alance No	76-2
Front Half Acetone Container N	No. <u>NA</u> 1	Liquid Level Marked <u>—</u>	Sealed		
Filter Container N	No	W	Sealed		
Description	of Filter				
Samples St	ored and Locked				
Back Half/I	<u>Moisture</u>	l.c	() -, 10		3RD Japas -
Container N	Vo	1>	1 / 200	toph vs	3KD Lagers =
	el Marked		Sealed		-
Iman No	Contenta	Initial Vol		Weight (gra	ıms)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	Free 1/20	100	791.7	793.5	1-8
2	Type 1 H20 Type 1 H20 Empty	100	171,6	1	2.0
3	7 9		6531	654.2	[-]
4	SticaGel	250	927.6	936.9	9.3
5	Aliceoa	~(J-	101.4		
6					
	Cotal		3,44	3158,2	14 2 VM
	of Impinger Ca	tch:	clear	bw 5/1.5	
				bw "	•

200 - G9,48

PAGE 10FZ

METHOD 18 SAMPLING DATA

Company: AK MISSLETBUN	City: MIDDLE TOWN, OH
Date: 8/30/16	Location: PRESSURE BAGHOUSE (STACK)
Time: 1026 - 1602	Run No: P-0031-1
Meter No: VB - 1	Orifice, CC:
Barometric Pressure, in.Hg: 30.27	Operator:CJ
Ambient Temperature, EF: 84	1A= 19.442, Tm=87
VACUUM LEAK O	CHECK DATA 1B= 19.5 R, Tw = 91.5

		Ir	nitial, in.Hg	Final, in.H	Ig	Time, min	
TRAP#	Pre-test Post-tes		25	25	· -	1	
	Sample time, min	Clock time, (24-h)	Meter volume, liters	Rotameter Setting	Dry ga meter temp. E	Vacuum, F in.Hg	Prose into
8	2:40	1026 - 1029	7657.65	1 4/min	8≤	85 3 85 3 87 3	264 60
ig gr	9:30	1119-1122	7666.92		88 8	3	263 62
CHANCING TOBER	10:28	1200-1204	7670.27 7673.54 7677.09		89 8	39 3 9 3	265 56 264 56
23	23: 22	1231 - 1279	7680.42		89 8	9, 3	265 63
•	30:03	1258 - 1302	7686.93		91 9	1 3	265 58 265 55
Pro Push	36:33 38:00	1345 - 1348	7693.24		92 9.	2 3 3 3 3 3	265 60 265 5 Z
ONE.	40:00	1348 - 1350	フレタル 59 V _m liters x Y x	$17.647 \times \frac{P_{b}, ir}{Tm}$	n.Ĥg 7	3 3	265 53

METHOD 18 SAMPLING DATA

Company: AK STEEL	City: MIDDLETOWN, OH
Date: 8/30/16	Location: Person BH
Time: 1026 - 1602	Run No: <u>ρ-0031-1</u>
Meter No: VB-1	Orifice, CC:
Barometric Pressure, in.Hg: 30.23	Operator:
Ambient Temperature, EF: 84	

VACUUM LEAK CHECK DATA

	Initial, in.Hg	Final, in.Hg	Time, min
Pre-test	25	25)
Post-test	24	2 7	

Meter Dry gas meter Vacuum, Sample Clock time, volume, Rotameter PROBE CONVENSE time, min liters Setting temp. EF in.Hg (24-h)43:21 7699.67 265 1442-1445 1 L/min 94 3 94 46:43 7702.82 1458-1501 94 265 94 3 60 49:59 7705.96 1508-1511 93 93 ػٞ 266 62 3 53:15 1525-1528 7709-27 .94 265 53 56:38 3 1542 - 1545 93 .93 7712.52 266 5 2 60:00 7715.72 53 92 1559- 1602 266 92

 $V_{std} = V_m \text{ liters } x Y x 17.647 x$

16.05 l

57

N:\Air Testing\Verified Field Data Sheets\Field Data Sheets\Charcoal Tube (Method 18) Sampling Data.doc

METHOD 18 SAMPLING DATA

Company: AK STEEL	City: Miggierour, 04
Date: 8/31/16	Location: Pushing BAGHOUSE
Time: 1020 - 1603	Run No: P = 0031 - 2
Meter No: VB-1	Orifice, CC:
Barometric Pressure, in.Hg: 30.05	Operator:
Ambient Temperature, EF: 79	2A=19.672, Tw=80
VACUUM LEAK C	HECK DATA 2 B = 19.42 l, Tm = 93

	Initial, in.Hg	Final, in.Hg	Time, min
Pre-test	25	25	
Post-test			

TRAP# Sample time, min Clock time, liters volume, Setting Rotameter temp. EF Vacuum, in.Hg PROBE Covider temp. EF 29 0 - 77.36.44 - - - 26.8 64 3:20 10.20-10.14 77.37.74 11.1/m.n 82 82 3 26.7 64 6:44 10.35-10.37 77.46.50 86 86 3 26.2 65 62 65 65 65 65 65 65 65 65 65 66				Meter		Dry gas			
time, min (24-h) liters Setting temp. EF m.Hg O - 7736.44 268 64 3:20 1020-1014 1737.74 1 1 1/min 82 82 8 201 64 6:44 1035-1039 7743.10 84 84 3 262 62 10:05 1049-1052 7746.50 86 86 3 263 63 13:72 1104-1107 7749.76 81 81 81 3 262 65 16:40 1123-1126 7752.95 87 87 3 261 66 20:00 1141-1145 7756.11 89 89 89 3 263 62 23:21 1200-1204 7759.24 90 90 3 259 60 26:42 1220-1224 7762.57 92 92 92 3 260 60 30:00 1239-1242 7765.96 94 94 94 3 263 60 30:00 1259-1301 7769.26 94 94 94 3 263 60 36:41 13:16-13:19 7772.52 94 94 94 3	TRAP#	Sample	Clock time,	volume,	Rotameter	meter	Vacuum,	PROBL	· · · · · · · · · · · · · · · · · · ·
3:20 1020-1024 7737.74 1 L/min 82 82 3 269 649 65:44 1035-1039 7743.10 84 84 3 262 62 62 10105 1049-1052 7746.50 86 86 86 3 263 63 13:72 1104-1107 7749.76 87 87 87 3 261 66 16:40 1123-1126 7752.95 87 87 3 261 66 16:40 1123-1126 7752.95 87 87 3 261 66 120:00 1141-1145 7756.11 89 89 89 3 259 60 26:42 1220-1224 7762.57 92 92 92 3 260 60 30:00 1259-1242 7762.57 92 92 92 3 260 60 30:00 1259-1242 7765.96 94 94 3 263 59 30:41 1516-1319 7772.52 94 94 94 3 260 62	and the same of th	time, min	(24-h)	liters	Setting	temp. EF	in.Hg		
10:05 1049 - 1052 7748.10 84 84 3 262 62 10:05 1049 - 1052 7746.50 86 86 3 263 63 13:72 1104 - 1107 7749.76 87 87 87 3 261 65 16:40 1123 - 1126 7757.95 87 87 87 3 261 66 20:00 1141 - 1145 7756.11 89 89 3 259 60 23:21 1200 - 1204 7759.24 90 90 3 259 60 26:42 1220 - 1224 7762.57 91 94 3 260 60 30:00 1259 - 1242 7765.96 94 94 3 263 60 36:41 1316 - 1319 7777.52 94 94 3 263 60 36:41 1316 - 1319 7777.52 94 94 3 260 60 36:41 1316 - 1319 7777.52 94 94 3 260 60 36:41 316 - 1319 7777.52 94 94 3 260 60 36:41 316 - 1319 7777.52 94 94 3 260 60 36:41 316 - 1319 7777.52 94 94 3 260 60 36:41 316 - 1319 7777.52 94 94 3 260 60 36:41 316 - 1319 7777.52 94 94 3 260 60 36:41 316 - 1319 7777.52 94 94 3 260 60 36:41 316 - 1319 7777.52 94 94 3 260 60 36:41 316 - 1319 7777.52 94 94 3 36:41 316 - 1319 7777.52 94 94 3 36:41 316 - 1319 7777.52 94 94 3 36:41 316 - 1319 7777.52 94 94 3 36:41 316 - 1319 7777.52 94 94 3 36:41 316 - 1319 7777.52 316 316 - 1319 3177.52 316 316 - 1319 3177.52 316 316 - 1319 3177.52 316 316 - 1319 3177.52 316 316 - 1319 3177.52 316 - 1319 317	29	0	-	7736.44		-	-	268	64
10:05 1049 - 1052 7746.50 84 84 3 262 62 10:05 1049 - 1052 7746.50 86 86 3 263 63 13:722 1104 - 1107 7749.76 87 87 87 3 262 65 16:40 1123 - 1126 7757.95 87 87 87 3 261 66 20:00 1141 - 1145 7756.11 89 89 3 263 62 23 21 1200 - 1204 7759.24 90 90 3 259 60 26:42 1220 1224 7762.57 92 92 92 3 260 60 20:00 1259 - 1242 7765.96 94 94 3 263 60 30:00 1257 - 1301 7769.26 94 94 3 263 60 36:41 1316 - 1319 7772.52 94 94 3 260 62	21	3:20	1020-1024	7739.74	1 L/min	82 82	\mathcal{F}	269	64
10:05 1049 - 1052 7746.50 86 86 3 263 63 13:72 1104 - 1107 7749.76 87 87 3 261 65 16:40 1123 - 1126 7757.95 87 87 3 261 66 20:00 1141 - 1145 7756.11 89 89 3 263 62 23:21 1200 - 1204 7759.24 90 90 3 259 60 26:42 1210 1224 7762.57 92 92 92 3 260 60 30:00 1259 - 1242 7765.96 94 94 3 263 60 33:19 157 - 1301 7769.26 94 94 94 3 263 60 263 36:41 1516 - 1319 7772.52 94 94 94 3 260 62		6:44	1035 -1039	7743.10		84 . 84	3	262	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		10:05	1049 - 1052	7746.50				263	
10:10 1125 1126 1756:13 89 89 3 263 62 23:21 1200 - 1204 7759.24 90 90 3 259 60 26:42 1220 - 1224 7762.57 92 92 3 260 60 30:00 1259 - 1242 7765.96 94 94 3 263 59 33:19 157-1301 7769.26 94 94 9 3 263 60 36:41 1316-1319 7772.52 94 94 9 3 260 62		13:22	1104-1107	7749.76		87 87	3	262	6 5 ⁻
19 1200 - 1204 7759.24 90 90 3 259 60 26:42 1210 - 1224 7762.57 92 92 3 260 60 30:00 1259 - 1242 7765.96 94 94 3 263 59 33:19 157-1301 7769.26 94 94 3 263 60 36:41 1316-1319 7772.52 94 94 3 260 62		16:40	1123 - 1126	7752.95		87 - 87	3	261	66
19 26:42 1220-1224 7762.57 92 92 3 260 60 201 59 30:00 1259-1242 7765.96 94 94 3 263 59 33:19 1257-1301 7769.26 94 94 3 263 60 36:41 1316-1319 7772.52 94 94 3 260 62		20:00	1141-1145	7756.11		89 89	3	263	6 Z
30:00 259 - 1242 7765.96 94 94 3 267 59 33:19 1257 - 1301 7769.26 94 94 3 263 60 36:41 1316 - 1319 7772.52 94 94 3 260 62		23:21	1200 - 1204	7759.24		90 90	3	259	60
33:19 157-1301 7769.26 94 94 3 263 60 36:41 1316-1319 7772.52 94 94 3 260 62	19	26:42	1220-1224	7762.57		92 92	3	260	-
36:41 1316-1319 7772.52 94 94 3 260 62		30:00	1259 - 1242	7765.96		94 94	3	263	59
36.41 [316~13.1] //12.52		33:19	1257- 1301	7769.26		94 94	3	263	6 O
		36:41		7772.52		94 94	3	260	62
			1335-1339	7775.53	1	94 94	3	26)	64

 $V_{std} = V_{m}$ liters x Y x 17.647 x $\frac{P_{b}, in. Hg}{Tm, R}$

PAGE ZOFZ

Time, min

METHOD 18 SAMPLING DATA

Company: AK STEEL	City: MIDDLETOWN, 64
Date: 8/31/16	Location: PRESSURE BH
Time: 1020-1603	Run No: P- 0031-2
Meter No: VB-1	Orifice, CC:
Barometric Pressure, in.Hg: 30.05	Operator:
Ambient Temperature, EF: 79	

VACUUM LEAK CHECK DATA

Final, in.Hg

Initial, in.Hg

25

Pre-test

	Post-tes	t	25	25_					
TRAP #	Sample time, min	Clock time, (24-h)	Meter volume, liters	Rotameter Setting	me	gas eter o. EF	Vacuum, in.Hg	PROBE	COMBEN
10	43:20	1-148- 1452		1 L/min	92	92	3	262	61
	46:40	1459-1503	7781.79	1	90	90	了	264	59
	50.00	1510-1514	7784.99		87	87	3	267	26
	53:23	1525-1529	7788.16		83	8.7	3	265	57
	56:41	1543-1546	7791.27		82	53	3	260	62
_	60:00	1600-1603	7794.41	1	83	83	3	268	ح کی

 $V_{std} = V_m \text{ liters x Y x 17.647 x } \frac{P_b, in. Hg}{Tm.^{\circ} R}$

15.92 l. Ton = 86

METHOD 18 SAMPLING DATA

Company: AK STEEL	City: MIDDLETOLN, OH
Date: 9/1/16	Location: Pushing BAGHOUSE
Time:	Run No: P-0031-3
Meter No: VB-1	Orifice, CC:
Barometric Pressure, in.Hg: 30.08	Operator:
Ambient Temperature, EF: 72	3A= 19.38 Q, Tm= 72
VACUUM LEAK O	CHECK DATA 3B = 16.36l, Tm = 76
Initial, in.Hg	Final, in.Hg Time, min
Pre-test 24 Post-test	24 1

TRAPH	Sample time, min	Clock time, (24-h)	Meter volume, liters	Rotameter Setting	me	gas eter o. EF	Vacuum, in.Hg	PR:80	COND
15	3:17	10:20-10:23	7795.50	1 L/min	69	69	3	262	59
	6:40	10:35-1038	7801.86	- - - - - - - - - -	71	71	3	261	59
	10:00	1047 - 1050	7805.08		72	72	3	265	59
	13:20	1118-1122	7808.40		73	73	3	265	60
	16:40	1130 -1133	7811.66		73	73	3	263	60
1,5 78428	20:00	1142 - 1145	781488		74	74	3	265	60
25 781819	23:21	1200 - 1204	7818.40		74	74	3	264	63
20	26:40	1219-1223	7821.53		75	75	3	264	64
<i>i</i> -	30:00	1238-1142	7824.84		76	76	3	264	66
	33: 20	1257-1300	7828. 7		77	77		263	62/
	36:40	1316 -1319	7831.47		.77	77	3	265	
V 25 783.4.76	40:00	1335 - 1338	7834.76	1	78	78	3	263	59

7835,33

 $V_{std} = V_m \text{ liters x Y x 17.647 x } \frac{P_b, in. Hg}{Tm, R}$

METHOD 18 SAMPLING DATA

Company: AK STEEL	City: MIDDLETOWN, OH
Date: 9/1/16	Location: Pushing BH
Time:	Run No: P-0031-3
Meter No:	Orifice, CC:
Barometric Pressure, in.Hg: 30.08	Operator:
Ambient Temperature, EF: 72	3C=16.03l, Tm= Z8
VACUUM LEAK C	HECK DATA

Initial, in.Hg

Pre-test Post-tes									
Sample time, min	Clock time, (24-h)	Meter volume, liters		meter ting	me	gas eter o. EF	Vacuum, in.Hg	PROBL	
43:20	1441 - 1445	7838.61	1 4	/mis	78	78	.3	263	2,
46:40	1451-1455	7841.95	j	/	78	78	3	263	60
50:00	1510 - 1514	7845.19			78	78	3	264	57
53:20	1525-1529	7848.40			78	78	3	264	59
56:40	1543-1546	7851.53			78	78	3	265	28
60:00	1601 - 1603	7854.64	1	•	78	78	3	265	2.2
		•							
]	
								1	

Final, in.Hg

Time, min

 $V_{\text{std}} = V_{\text{m}} \text{ liters x Y x 17.647 x } \frac{P_b, \text{in. Hg}}{Tm.^{\circ} R}$

N:\Air Testing\Verified Field Data Sheets\Field Data Sheets\Charcoal Tube (Method 18) Sampling Data.doc

Vu = 59.14 lilus

FIELD DATA SHEET

Flant:

Plant:

Run Number: C-316 1 Date: 9-3-16

Pretest Leak Rate: . 000 cfm @ \$\frac{1}{2}\$ in.Hg.

Pretest Leak Check: Pitot: \text{Orsat:}

Operator: 60 Sample Type: 19316

Nozzle ID: 0,50 Thermocouple #: 75-8

Sampling	Sampling Location:	COM	1 1	A dimina	30	00	8 .			Assumed Bws:	1 Bws: /2	- Filter ∀.	#: Byeass	1.906
Run Number: Pretest Leak R Dustant I and C	Run Number: C-516 1 Pretest Leak Rate: . 000 cf Dustant I and Charle: Pitot:	1.⊑	Date: 7-3 (*) 1 @ & in.Hg.		Lengt	be:	12	735	<i>∞ ></i>	Post-Tes	Post-Test Leak Rate: Post-Test Leak Check	. 000 c. Pitc		ببنا
וכופאו דים	an Circun	1						.1			-			
Traverse	Sampling	Clock	Gas Meter	Velocity	AE	h:	Stack	Temperature EF		Impinger	Aux.	Dry Gas Meter Temp. Tm	eter Temp. n	Pump Vacuum
Point Number	Time	•	Reading	Head	Desired	Actual	Temp (Is)	Probe	Filter	Temp. T	Temp.	Inlet	Outlet	(in. Hg)
C	0	0953	083.757											
-	2.5	0455	-	, Ø3	1.1	1, 1	370	236	361	67	N.A.	88	80	0
Ç	70	0458	087.3	, 03	1.	1.1	374	237	265	63		69	64	0
i h	7.5	0001	<i>⊗</i> ∞	. 03	1.1	17	377	236	764	57		20	60	0
7	01	1003	089.7	. 03	1,1	1,1	379	237	706	56		77	60	0
 	17.5		091.2	.03	1.1	1.1	37/	238	365	56		14	69	0
2 3	15.	1	092.6	.03	1.1	<i> </i>	375	239	196	55		72	20	0
I	701	1010	044.0	. 03	1.1	/ ' /	378	240	263	54		46	70	0
×	20%	10/3	0.95.4		1:1	1.1	378	146	198	56		44	20	0
0	77.5	1015	042.0	, 03	1,1	11/	376	240	260	56		44	70	0
	27.	1018	048.5	40.	1.5	1,5	380	241	192	52		76	7/	0
7/	275			h 0 '	1.5	1,5	349	247	267	58		76	7/	0
17	30	1123	6.101	70.	1,5	1.5	380	248	267	59		77	71	0
	33.5	1025	103,6	40.	1.5	1.5	385	250	260	59		78	71	0
~		1028	105.2	ha'	1.5	1.5	387	251	258	00		79	72	0
· ~	37.5		106.9	407	1,5	1.5	390	252	262	19		49	72	0
7	0h	}	108.6	40'	1.5	1,5	393	253	260	59		80	73	0
1	42.5	1035		69	1,1	1,1	397	360	198	59		18	72	0
2	45	1038		, 03	/ /	111	398	360	262	59		8	73	0
7	26h	0701	113,0	.03	17	1.1	398	259	368	19		81	72	. 0
~ ~	5.0	2401	114.5	.03	1,1	/. /	380	260	366	56		82	72	Ø
0	52.5	}	1/6	.03	47	13	370	365	704	58		83	73	0
01	7.4	1-		,03	ie	1:3	372	764	265	59		80	75	0
	515	1	119	, 03	1.2	1.2	372	498	108	09	1	78	75	0
5		, 9	7	. 03	13	r. 7	373	263	365	85		85	76	0
3	e	2	- 1	614	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \							3		\

Tm = 74

 $\overline{\Delta H} = 1.\lambda$ $\overline{Ts} = 380$

 $\Delta V_{\rm m} = 36.961$

Plant M	K Sheel Mi	ddletown		Run No	C-3/6-1
Date 9/8//	Si Si	ample Box No5	8-7	Job No §	2074,0172
Sample Loc	ation Con hu	3/10		Filter No	<u> M</u>
				Head No	SH-3
Sample Rec	overy Person	D8	Baro	meter No	TWC
Comments	M316	- formaldely.	LeBa	ilance No	2
Front Half Acetone Container N	10. <u>NA</u> 1	Liquid Level Marked	Sealed		
Filter Container N	10	14	Sealed		
Description	of Filter	,			
Samples St	ored and Locked	, 100 Especial.			
Back Half/I Container N	Moisture	ri ZND Tu	nyer 3	RD P	mpm
Liquid Lev	el Marked		Sealed	/	<u>, </u>
Acetone Container No. Acetone Liquid Level Marked Sealed					
Imp. No.	Contents		Initial	,	
1	Han	LU)	759.2	839.7	8015
2	the	100	786.7	800.2	13.5
3	Heremb	- 693.8	689- DA	697.82	3,4
4	56-	250	916.4	924-6	8-2
5				, -	, ,
6					
	Γotal				10516
				· c ¹	7

Bws=12.0% Iso = 94.6% Description of Impinger Catch:



FIELD DATA SHEET

Plant: Ak Middle fowN Sampling Location: Cembustion Stack Run Number: C-3/6-2 Date: 9/8/16 Pretest Leak Rate: 000 cfm @ 7 in.Hg. Pretest Leak Check: Pitot: Onsat:

Sample Type: $\frac{M3/6}{30.00}$ Operator: $\frac{60}{8}$ Pbar: $\frac{30.00}{30.00}$ Ps: $\frac{...8}{...8}$ CO₂: $\frac{3}{...9}$ Probe Length/Type: $\frac{5'6!}{6''}$ R: $\frac{5'}{5'}$ 745.8 Stack Diameter: $\frac{168''}{6''}$ K: $\frac{5'}{5'}$ 745.7

		UV.	T	T	1			<u> </u>		Т			1			Т	 1			·····	1	1			i		
Pump Vacuum	(in. Hg)		0	0	0	0	0	0	Ø	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\
ster Temp. 1	Outlet		76	38	78	79	49	79	79	79	80	80	8,	18	18	18	18	8	83	83	83	83	83	84	200	25	
Dry Gas Meter Temp. Tm	Inlet		16	78	52	80	81	82	83	84	55	85	87	87	& &	86	90	90	90	91	ō	16	92	93	93	46	<i>h8</i> =
Aux.	Temp.		S. A.					×															9.				Tm =
Impinger	Temp. T		66	63	62	09	59	58	59	62	63	59	09	59	58	57	58	58	58	57	59	63	69	00	58	57	
hure EF	Filter		267	369	898	270	368	266	365	269	263	265	267	263	89E	366	398	267	267	265	266	261	265	266	798	498	
Temperature EF	Probe		254	260	361	300	258	258	257	256	258	260	263	265	266	264	798	262	263	263	265	265	267	265	260	263	
Stack	Temp (Ts)		372	373	374	375	376	378	379	382	371	378	380	380	383	384	385	387	386	3 8 %	389	392	394	396	372	370	188 =
H	Actual		1.3	1.3	1.3	1.2	1,3	1,2	7,2	1,3	1.2	1.2	1.3	1.5	1.5	1,5	1.5	1.5	1,5	1.3	1,2	1.2	(. 2	1:1	1,2	1.2	1,27 TS=
H∇	Desired		1,2	6.3	1.2	1.3	1, 2	1.2	1,2	77	7.7	1,2	1,2	1,5	1.5	1,5	1.5	1.5	1.5	1.3	1.3	1,2	1,2	1:1	1,2	1.2	$=\overline{H}\Delta$
Velocity	Flead		.03	.03	. 03	.03	,03	203	.03	.03	.03	.03	.03	40.	40.	ho"	40"	ho:	ho:	103	,03	,03	,03	.03	03	.03	$ppri = \frac{a}{a}$
Gas Meter	Reading	120.953	123.5	124,0	125.5	127.0	1.38.6	130.2	131,7	133.3	134.8	136.3	137.9	139,5	41.4	143.0	144,7	146.5	148.0	149.4	151,2	152.8	154,4	155,8	1573	158.837	37.884
Clock	7	9461	8261	1251			1258	1301	1303	1305	1308	1310	1313	1315	8/2/	1320	1323	1325	1328	1330	333	1335	1338	348	343	1	11
Sampling	Time .	0	10	-			12.5 1			<u> </u>	10	1	1		12	35	2	1 0/1	1/4		47.5 /		52.5	55	7		
Traverse	Number	0		2	2	7	7	29	I.	~	0	01		21		2	3	7	6	0	4	0<	9	01		C.	

 $\Delta V_{\rm m} = 37.884 \sqrt{\Delta p} = 1799 \Delta H = 1.27 T_{\rm S} = 381$

5 6

Total

SAMPLE RECOVERY DATA

Date 9/6/ Sample Loc Train Prepa	cation Comparer DA/1	ample Box No bushon >t DA 316 Formal	<u> </u>	Job NoS Filter No Head No.	-316-2 50074-0172 NA 5 TWC-com
Front Half Acetone Container	10. <u>M</u> +	Liquid Level Marked	Sealed	√ A	
Filter Container N	No	NK	Sealed		-
Description	of Filter				,
Samples St	ored and Locked		No.		
Back Half/I Container I	Moisture	St 3 2 N D	Inpri	3 RD 5	wylor es
Liquid Lev	el Marked		Sealed		·
T NT-	C44-	Initial Vol		Weight (gra	ms)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	Typt tho	100	789 5		78-5
2	Rock tho	(W	772,4	784.6	12-2
3	Typt tho Type tho Emply		655-2'	658-0	2.8
4	- ' /	All the same of th		٠	

Jupagers Blackish

aus=11.8%

Eso=104.0% Description of Impinger Catch:



FIELD DATA SHEET

Pbar: 30.00 Combustion Stack pr. 3 Date: Pretest Leak Rate: ool cfm @10 in.Hg.
Pretest Leak Check: Pitot: Run Number: C-3/6-3 Date: Plant: AK M: Sampling Location:

CO₂: 3 O₂: /SProbe Length/Type: S/G/ Pitot#: 7S-SStack Diameter: /6S' K: S9.7959Operator: M

Assumed Bws: 10 Filter #: 106

Meter Box #: 5 Y: .qq3 AH@: 1.906

Post-Test Leak Rate: .ad2 cfm @ Z in.Hg.

Post-Test Leak Check: Pitot: .dd Orsat: ... Nozzle ID: 0.50 Thermocouple #: 75-8

Pump	(in. Hg)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Ö	0	0	0	0	0	Ower /
eter Temp. n	Outlet		86	Λ 00	87	87	87	87	87	87	87	88	88	88	87	87	88	88	88	88	88	89	68	68	90	0%	
Dry Gas Meter Temp. Tm	Inlet		87	87	87	48	88	88	88	88	90	06	Olo Olo	H	16	E	93.	8	83	. 16	16	35	56	95	96	36 A D 96	- 89
Aux.	Temp.		NA	` -		•			-																,		Tm =
Intringer	Temp. F		65	65	65	62	68	59	63	[9	63	63	63	62	10	()	19	09	09	19	19	29	63	<i>E9</i>	63	49	
Temperature EF	e Filter		2 266	3 267	WC 1.	25 h	190 h.	263 268	SLE 9.	9LE L	COC 5	82C 85	B4 360	1 350 L	63 40	$\overline{}$	69E 1.	110 13	19C 5	82 273	110 6	UC 50	19C 3	896 h	Et h	128 h	.
Tem	Probe		25	26	264	19E	198	26	266	190	2 H	R	96	26	36	7	B	13	H	26	26	70	20	J61	1,98	26	
Stack	Temp (Ts)		340	375	376	378	376	32	378	378	329	319	380	379	379	378	378	380	379	382	380	376	389	988	188	188	= 3.80
ΔH	Actual		12	12	1.3	<i>t')</i>	21	4.1	6.7	C)	E)	87	2)	tr/	E1	<i>t')</i>	21	7.1	Z1	2.1.	E-1	6	ا,2	()	i	£-1	1.2 Ts
Δ	Desired		(J.	1-2	1.2	1.3	1.2	t. 7	<i>(</i> *)	(-3	7.7	(2	27	61	1.2	£1,	67	4	1.2	2)	(.2	. 6 .	ر. ج	4.	Ç	1.7	$=HV$ \mathcal{E}
Velocity	Head		.03	60.	.03	80,	E.O.	20,	,03	60,	60,	69	.03	63	69	60,	.03	50.	£0.	:03	£D.	.03	in C	60.	603	, 03	C(L) = dV
Gas Meter	Reading	154.005	160.5	162.1	163.5	(65.0	166.5	1.801	169.7	0./2/	172.8	h h61	175.0	177.6	79.4	9.081	183.2	23.8	185.1	196.8	188.	150,0	191.5	jq3.0	5.461	04C.301	37.381 1
Clock		bhS1	1.551	1554	9551	1559	1091	4091	909)	609)	1191	1/9/	9/9/	6191	1691	1624	1626	(629	1631	1634	1636	1639	1491	hh91	9/3/	6 mg	$\Delta V_{IR} = 1$
Sampling	Time	0	2.5	N	7.5	(0)	12.5	(5)	17.5	20	33.5	35	375	30	32.5	35	37.5	0/2	5.6	5/2	47.5	50	52.5	50	575	00	
Traverse	Number	0	\	a	~	<i>b</i>	~	7	1	60	4	0/	//	6/	_	4	~	<i>h</i>	2	9	7	8	6	2		Z.	

Plant /	C Steel Mr	ddletour		Run No.	- 716
		1 75 57	7	Job No. 5	0074.0172
Sample Loc	cation <u>Co~</u> L	oustion Sta	<u></u> `	Filter No	1000 NA 3 1000 2
Train Prepa	ner D 🗸		Sample	Head No	3
Sample Red	covery Person _	DA	Bare	ometer No	TWC
Comments	M^	16 · formulde	hyh B	alance No	7
Front Half	·	Liquid Level Marked	·		
Filter Container N	Vo	N8 W	Sealed		
Description	of Filter	NB			
Samples St	ored and Locked	11			
Back Half/I Container N	Moisture No	r { 2M0	Suprajer	3 / 3 AD) Eng.,~
		Initial Vol		Weight (gra	ms)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	Hro	100	766,0	824,4	58.4
2	rho	(W		79010	
3		_	 	696.0	9.6
4	entry Su-	250	909.8	924,	14.3
5			10,70		, , , , ,
6			<u> </u>		
			I .	I .	I

Description of Impinger Catch: 15ri 240 typing on - Dlack is -

Total

Bus=101%

Too= 103,6%



FIELD DATA SHEET

Plant: A sample Type: 3/6
Sampling Location: Combuskin Stack
Run Number: C-3/6-7 Date: 9-15-16
Pretest Leak Rate: 20 cfm 2 in.Hg.
Pretest Leak Check: Pitot: 20 Chart: Stack Diameter: Stack Diameter:

Nozzle ID: '500 Thermocouple #: 76-1570
Assumed Bws: 10 Filter #:
Meter Box #: 2 Y: 1005 AH@: 168 >
Post-Test Leak Rate: 201 Cfm @ 10 in.Hg.
Post-Test Leak Check: Pitot: 1005 Orsat: 1005

Pump	(in. Hg)		0	0	0	0	0	0	0	0	0	0	0	0										(8)
	Outlet (10	63	63	63	63	(H	h9	65	99	(2)	64	20										
Dry Gas Meter Temp. Tm	Inlet			(h)			•	•,	69	13	· EL) //L	9 . 8/	79		 			_		<u> </u>			(2)
Aux.	Temp.		NA	J										→										Im =
Impinger	Temp. TF		65	24	54	47	917	47	48	8/1	1 81	фh	50	50										The Parties of the Pa
ture BF	Filter		260	266	305	265	398	365	263	365	45E	5%	59E	363										
Temperature EF	Probe		260	266	43E	264	361	ЭCH	C9C	761	158	363	767	263					·					
Stack	Temp (Ts)		350	350	350	353	~	384	356	353	360	361	3%	36&		-				بر ا	-			= 356
Frt	Actual		1.1	6.1	47	4.1	H.)	1.4	ΗÍ)	1.7	h')	3	K1	Ĭ.										= sT = SCN / I
	Desired		1.7	h.)	h')	h')	h.)	h')	<u> </u>	151	h.)	<u> </u>	三	۲.					-				3	$AH = \overline{A}$
Velocity	Head		30'	40.	, 04	40.	Αò	È	70.	70	7,0	. 10	2	₩о,										$\sqrt{\Delta p} = \sqrt{2020}$
Gas Meter	Reading	771.305	174.7	776.1	721.5	784.8	783.3	791.5	145.0	748.4	8,108	80.73	808.7	612. (33										40.917 VA
Clock	7	SHB	950	35%		 	1010	5/0/	050)	5001	050)	(035	0401	ioys	\ \ -									ΔVm=
Sampling	Time	0	5	0	5)	20		30	36		45	99	55	હ										
Traverse	Number	0		C	~	17	~	9	1	A	6	9		69										

Rue DR= , ayout

Plant H	K Middl	Sample Box No Sastion Stack		Run No. C	- 316 - 4
Date 9//	5/16	Sample Box No.	\$3-2	Job No. 🔑	50074.0172
Sample Loc	cation Lomb	ustion Stuck		Filter No	NA SH-5
Train Prepa	arer BF		Sample	Head No	SH-5
Sample Re	covery Person_	BF	Bare	ometer No	Tuc.om
Comments	M	316	Ba	alance No	SH-5 TWG. 67 FB-Z
Front Half		Liquid Level Marked			
Filter					
	No.	NA	Sealed	NA.	
Description	n of Filter		vv		
Samples St	ored and Locke	d			
Back Half/	Moisture	NA			
Liquid Lev	el Marked	NA_	Sealed	NA	
Trace NIc	Contents	Initial Vol		Weight (gra	ms)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	H20	100	788.5	881.9	93.4
2	420	(00	772-1	789-6	1.]
3	,	-	653.8	656.5	2.7
4	H20 Sita Gel	2,50	964.0	973.8	9.8
5					
6					
	Γotal				107,0

41-1500-7

AOFYLIFE OBGYNIC SYMLFING LBYIN (AOST) SAMPLING DATA Eby Melhod 30

Date: 9/8/16 Time: 0935-0955-19 Meter#: VB-2

00.06 Barometric Pressure, in.Hg:_

Ambient Temperature, °F:

gH.ni ,lsitinl

Time, mm. gH.ni ,lsni4 Vacuum Leak Check Data

46

26 26 46

UZ

76

0/2 88 98 43 77 15 マクフ 07 48 05 352 01 35 COL Setting Temp, °F (gH.ni) (F)Meter Temp., \acumu, Rotameter Probe Dry Gas

Purge Time: 10 m

Operator: John

Y-Factor: 1,085

Kun #: C-0031-11

City: Milkbur Location: Content Seek

857 75 652 55 **85** Z 25 157 26 95 25Z 65 15 097 292 06 25

Nitrogen purge/activated carbon packing in sample holding container: *Gula 6. Wh I winds = 0, 60 V 26 40 26

88=ml, 285,91 = 94 o'st tear 48-49280811=A1 49=ml, 245,91 = 26# o'st tear 48-49280811=A1

Turke Beele

68'88 ph

50 48 AM

OF BL hh

08"HLhh

08 89hh

h' 890h

1851h

20 6 KAA

(liter)

Yolume,

∴ rətəl√l

013911

 $\frac{(\mathrm{gH.m})_{d}^{\mathrm{A}}}{(\mathrm{H}^{\mathrm{o}})_{\mathrm{m}}^{\mathrm{A}}} \times 740.71 \times Y \times (\mathrm{statil})_{\mathrm{m}} V = {}_{\mathrm{bis}} V$

2.00.0

8201

2201

8701

6101

8001

2580

0.660

5/60

Opp0

5660

(24-hr)

Time,

CJOCK

Lul Sed 22 10 / lance =

MOU

137 51

101

9,5

07

61

Ōľ

0

Time (min)

Sample

Post-test: Pre-test:

8201 -800)

91

A1

C-6031-1C L 1803694-29 Two #4

Company: All Stel Date: 9/8//6 Time: 104/-1/0/ Meter #: VB - 2 Barometric Pressure, in.Hg: 30.00	City: My delle town Off Location: Confusting State Run #: C-10031-1C Y-Factor: 1.085 Operator: MIL Purge Time: 5
Ambient Temperature, °F:	Targe Thire.

		Vacuum Leak Check	Data	
	Initial, in.Hg	Final, in Hg	Time, min.	10
Pre-test:	15	25	0.000	•
Post-test:	5	<u></u>		

	1 021							l i
1C	Sample Time (min)	Clock Time, (24-hr) / • 41 / • 46 / • 56 / • 6 /	Meter Volume, (liter) 4489,69 4495,5 4500,0 4504,75 4509,60	Rotameter Setting /./ /./ /./ /./	Dry Gas Meter Temp., (°F) 94 94 95 96 95 96 95 95	Vacuum, (in.Hg) 3 3 3 3 3	Probe Temp, °F 258 259 260 258	6 4 54 55 56
10	6 (6 13 20	1117	4510,25 4515,1 4520,1 4529,2 4530.19	1) e -	94 94 94 94 95 95 95 95 96 96 0ding container:	3 3	261 262 25 8 260	51 56 56 50 48

Nitrogen purge/activated carbon packing in sample holding container:

$$V_{std} = V_{m}(liters) \times Y \times 17.647 \times \frac{P_{b}(in.Hg)}{T_{m}(^{o}R)}$$

$$C - 00\% - 10 = 19.94 L$$

$$L 1803694-30$$

$$L 1803694-30$$

$$Tw = 96$$

16

EPA METHOD 30 VOLATILE ORGANIC SAMPLING TRAIN (VOST) SAMPLING DATA

Company:	AL Stee	l-Middle +	gun		City: _	Middle to	va, 04	
Date:9/9	3/16	18			Location	n: Contres	L'on Stade	J
Time: ///	7E /	1 F			Run#:	C-0031-	16	
Meter #: V					Y-Facto	or: / 0 9	35	
Barometric Pr		. 30.00				r: ple		
					*	ime:		
Ambient Tem	perature, 'F:			**	rurge	ш <u>е</u> .		
		Vacuu	ım Leak Chec	k Data			Post Kot	
	Initial, in.H	Ig Fina	ıl, in.Hg	Tim	ie, min.		5" e 1 m	ై . ర. ము
Pre-test: /ど	22		22		/ 0	200 e	5 6/1	
Post-test: /F	. 21		21		0.0	<u>00</u> 0 l	5" el un	× 0.00 -
				T	- C			٦ .
	Clock	Meter	D 4		Gas	*7	Dueles	Coules
Sample	Time,	Volume,	Rotameter	I	Temp.,	Vacuum, (in.Hg)	Probe Temp, °F	Combers
Time (min)	(24-hr)	(liter)	Setting	97	°F)			48
	1144	4530,85	(2)		96 97	<u>3</u>	267	49
5	1/49	4535.863	1.1	98	97	3	261	49
10	1154			98	98	<u> </u>	259	50
15	<u>1159</u> 1204	4544,8	1.1	98	97	<i>3</i>	262	49
20	1204	7597.00	101	10			201	┤ ` '
0	1215	4550.32	1-1	99	99	2	257	50
<u>'</u>	1220	4555.4	1.1	99	99	2_	260	52
10	1225	4560.2	1.1	101	99	2	258	51
	1230	4564,55		102	100	2	259	5~2
22	1235	4669,32	61	102	100	2	263	53
	a							
	Port ferr							
Nitrogen purg	ge/activated ca	arbon packing	in sample ho	lding coi	ntainer:			

$$\begin{split} V_{std} &= V_{m} (liters) \times \ Y \times 17.647 \times \frac{P_{b} (in.Hg)}{T_{m} (^{\circ} R)} \\ &\qquad \qquad \mathcal{C} - 0031 - 1 \mathcal{E} = LIP03694 - 52 \quad \text{The $\#27$} = 18.83 \, \text{L}, \quad \text{Tm} = 97 \end{split}$$

C-6031-1F= L1803694-36 Trio #11= 19,00 l, Ton- 000

C-0031-2A+2B

EPA METHOD 30 VOLATILE ORGANIC SAMPLING TRAIN (VOST) SAMPLING DATA

Company: All Steel	City: Milleton Oh
Date: 9/9/16	Location: Conduction Stack
Time: (245-1305	Run#: 2A 12B
Meter #: VB - Z	Y-Factor: /, b 8 s
Barometric Pressure, in.Hg: 30.00	Operator:wllw
Ambient Temperature, °F:	Purge Time:

Vacuum Leak Check DataInitial, in.HgFinal, in.HgTime, min.Pre-test:222210.00 lPost-test:252510.00 l

	Clock	Meter		Dry	Gas			100
Sample	Time,	Volume,	Rotameter	Meter 7	Гетр.,	Vacuum,	Probe	Corol
Time (min)	(24-hr)	(liter)	Setting	(°]	F)	(in.Hg)	Temp, °F	
O	1245	446970	Col	102	w(3	266	57
5	1250	4575.2	1.1	63	w	3	256	58
10	1255	45 79.25	1.1	103	202	3	259	63
15	1300	4584.8	-61	204	103	3	256	59
70	1305	4589.29	1.1	104	102	- 3	260	51
	POUR four	<u>- </u>						
	6:00 6 50							
0	1314	4589,85	101	121	101	3	262	49
Ä	1320	4594,55	1.1	102	101	3	259	49
10	1325	4599.5	61	102	102	3	259	49
15	1330	4604.4	1.1	103	102	3	259	49
20	1335	4608,75	41	102	101	3	258	50
	Pour terr		-					

Nitrogen purge/activated carbon packing in sample holding container:

$$V_{std} = V_{m}(liters) \times Y \times 17.647 \times \frac{P_{b}(in.Hg)}{T_{m}(^{\circ}R)}$$

$$C - 603 l - 2A = L1803694 - 42$$

$$C - 603 l - 2B = L1803694 - 37$$

$$C - 603 l - 2B = L1803694 - 37$$

$$C - 603 l - 2B = L1803694 - 37$$

$$C - 603 l - 2B = L1803694 - 37$$

$$C - 603 l - 2B = L1803694 - 37$$

$$C - 603 l - 2B = L1803694 - 37$$

$$C - 603 l - 2B = L1803694 - 37$$

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$$C - 603 l - 2B = L1803694 - 37$$

$$C - 603 l - 2B = L1803694 - 37$$

$$C - 603 l - 2B = L1803694 - 37$$

EPA METHOD 30 VOLATILE ORGANIC SAMPLING TRAIN (VOST) SAMPLING DATA

a hv S/- A		City Mil	Alexan OH
Company: At Heal			
Date: 9/8/16		Location: 🚜	bustion Stade
Time: 1345-1405 1415	5-1435	Run #:	c/2D
Meter #: <u>\\B-Z</u>		Y-Factor:	,085
Barometric Pressure, in.Hg: 30,		Operator:/2	M
Ambient Temperature, °F:		Purge Time:	
	Vacuum Leak Che	ck Data	
Initial, in.Hg	Final, in.Hg	Time, min.	
Pre-test: 25	25	1 00	ol ol
Post-test: 7 A 7 3	23	1 0 0	0.0

	Clock	Meter		Dry Gas			
Sample	Time,	Volume,	Rotameter	Meter Temp.,	Vacuum,	Probe	Com
Time (min)	(24-hr)	(liter)	Setting	(°F)	(in.Hg)	Temp, °F	37
. 6	1345	4609,50	1.1	102 WZ	4	265	52
5	1350	4614,5	61	102 102	¥	266	51
10	1395	4619.2	111	103 102	4	259	51
15	1400	4624,1	111	102 102	4	261	52
w	1405	4628.90	1.1	103 103	4	257	52
for fest	6401 w	iu= 0.00 l					
							_
0	1415	4629,55	1.1	103 102	4	258	54
5	1420	4634,45	le (103 102	4	260	55
10	1424	4639,2	101	104 103	14	260	53
15	1430	46.44.1	1.1	104 103	.4	257	58
20	1435	4648,95	1.1	105 105	Ý	258	6
						259	

Nitrogen purge/activated carbon packing in sample holding container:

$$V_{\text{std}} = V_{\text{m}}(\text{liters}) \times \text{ Y} \times 17.647 \times \frac{P_{\text{b}}(\text{in.Hg})}{T_{\text{m}}(^{\circ}\text{R})}$$

$$C - 0031 - 2C$$

$$C - 0031 - 2D$$

$$C - 0031 - 2D$$

$$C - 0031 - 2D$$

$$L 1803694 - 27$$

$$T_{\text{rio}} = 19.40 L$$

$$T_{\text{lin}} = 103$$

20

20

EPA METHOD 30 VOLATILE ORGANIC SAMPLING TRAIN (VOST) SAMPLING DATA

Company: AK Steel	City: Middle town, Ob
Date: 9/8//la	Location: Contration Steel
Time: 2 / 1495 - 1505 / 2 F	Run#: 2E/2F
Meter #: <u>V(3 - 2</u>	Y-Factor: / 085
Barometric Pressure, in.Hg: 30.00	Operator: Milli
Ambient Temperature, °F:	Purge Time:

Vacuum Leak Check Data
 Initial, in.Hg
 Final, in.Hg

 Pre-test: 26
 26
 25

 Post-test: 27
 23
 23
 Time, min.

	Clock	Meter		Dry Gas				
Sample	Time,	Volume,	Rotameter	Meter Temp., (°F)		Vacuum,	Probe	Cules
Time (min)	(24-hr)	(liter)	Setting			(in.Hg)	Temp, °F	
0	1449	464946	hel	105	105	~ _7.÷	262	53
5	1450	46545	1 lei	108	108	3	258	52
10	1455	4659.25	1,1	108	107	3	256	54
15	1900	46636	41	106	106	3	259	54
20	6505	4668,54	Pal	108	108	3	260	5Y
Post Lest LO	2 5 0/ min		,					
0	1512	4669.76	1.1	106	106	2	261	60
5	1517	4674.0	101	107	107	2	260	58
10	1522	4678,9	1.1	107	100	2	262	50
15	1527	4684.3	61	108	107	2	261	60
20	1532	4688.17	1-1	107	166	2-	262	60
XT'4	/			1.	, .		·	

Nitrogen purge/activated carbon packing in sample holding container:

$$V_{\text{std}} = V_{\text{m}}(\text{liters}) \times Y \times 17.647 \times \frac{P_{\text{b}}(\text{in.Hg})}{T_{\text{m}}(^{\circ}R)}$$

$$C - 6031 - 2E \qquad L 1803694 - 26 \qquad Trio # 1 = 19.08 L,$$

$$C - 6031 - 2F \qquad L 1803694 - 60 \qquad Trio # 35 = 18.41 L$$

25

25

EPA METHOD 30 VOLATILE ORGANIC SAMPLING TRAIN (VOST) SAMPLING DATA

Company: Al Steel	City: Mildle town Off
Date:9/8/16	Location: Confustion Stack
Time: 1948-1608/1616-1636	Run #: 3 A / 3B
Meter #: <u>UB-2</u>	Y-Factor:
Barometric Pressure, in.Hg: 37-20	Operator: Dylan
Ambient Temperature, °F:	Purge Time:

Vacuum Leak Check DataInitial, in.HgFinal, in.HgTime, min.Pre-test:2510.00 l.Post-test:2510.00 l.

		Clock	Meter		Dry	Gas	-		
	Sample	Time,	Volume,	Rotameter	Meter	Temp.,	Vacuum,	Probe	Culie
	Time (min)	(24-hr)	(liter)	Setting	('	°F)	(in.Hg)	Temp, °F	
	0	1548	4689.81	61	105	105	12	275	63
%	5	1553	4693,4	1.1	67	105	2	261	62
7	10	1558	4698.4	1,1	108	Tole	2	267	58
	15	1603	Ele 4703,3	1.1	168	108	2	258	60
	20	1600	4707.90	let	107	106	2	256	62
	Bezo A	v 540/4	nic= 0,00 C					259	
	, o	1616	4708.05	1.1	(7)9	108	2	ansto	60
	5	1621	4712.75	761	109	608	Z	257	62
	10	1626	4717,5	1.1	110	107	2	257	56e
	15	1631	4722.1	1.1	110	110	2	258	57
	20	1636	4726,90	1.1	108	109	2	259	53
				•					
	Heir	£12 5"€	lin =0,00.	e					1
	Nitrogen pure		rhon pooking		ding our	tainou			•

Nitrogen purge/activated carbon packing in sample holding container:

3B

$$V_{\text{std}} = V_{\text{m}}(\text{liters}) \times \text{ Y} \times 17.647 \times \frac{P_{\text{b}}(\text{in.Hg})}{T_{\text{m}}(^{\circ}R)}$$

$$C - 0031 - 3A \quad L/803694 - 51 \quad \text{This # 26} = 19.03 \, \text{L}_{\text{7}} = 107$$

$$C - 0031 - 3B \quad L/803694 - 49 \quad \text{This # 24} = 18.85 \, \text{L}_{\text{7}} = 109$$

EPA METHOD 30 VOLATILE ORGANIC SAMPLING TRAIN (VOST) SAMPLING DATA

Company:	AL Steel	7	City: Middle rave Of
Date: 9	18/16		Location: Confration Speech
Time: _/647	-1707 /17	D 19-1735	Run #: 3c/3D
Meter #: <i>L</i>	18-2	_	Y-Factor: /,085
Barometric Pr	ressure, in.Hg: <u>30.</u>	<u>a</u>	Operator: DMc
Ambient Tem	perature, °F:		Purge Time:
		Vacuum Leak Checl	
Due teets	Initial, in.Hg	Final, in.Hg	Time, min.
Pre-test: Post-test:	25	25	
1 Obt-tobt.			

		Clock	Meter		Dry Gas			Condas
	Sample	Time,	Volume,	Rotameter	Meter Temp.,	Vacuum,	Probe	00
	Time (min)	(24-hr)	(liter)	Setting &	(°F)	(in.Hg)	Temp, °F	
2	0	1647	4727.28	1.1	110 110	4	269	56
		1652	4732,4	1,6	110 109	4	260	<i>3</i> 8
~ ^	10	1697	4737,4	1.1	110 110	4	266	59
30	15	1702	4742.5	1.1	110 109	4	266	60
40	20	1707	4747.67	let	110 109	Ÿ	258	60
		Pour Less	6 6 /wir	-0.00	· ·			
u	0	1715	4748.05	101	110 109	2	260	52
	5	1720	4753.0	161	110 109	2	258	51
3D	10	1725	47577	1.1	109 108	Z	258	53
	15	1730	4762.5	let	110 /10	2	257	55
(si	20	1775	476750	1.1	110 109	2	261	57
		Post	Lest LC=	640 / min	=0,00 l			

$$V_{\text{std}} = V_{\text{m}}(\text{liters}) \times \text{ Y} \times 17.647 \times \frac{P_{\text{b}}(\text{in.Hg})}{T_{\text{m}}(^{\circ}R)}$$

$$C - 0031 - 3C \qquad L1803694 - 59 \qquad Inio \# 34 = 20.39l, \text{ Im} = 1100$$

$$C - 0031 - 3D \qquad L1803694 - 39 \qquad Trio \# 14 = 19.45l, \text{ Tm} = 109$$

3F

EPA METHOD 30 VOLATILE ORGANIC SAMPLING TRAIN (VOST) SAMPLING DATA

Company: Mc Steel		City: Middle fewer, OH
Date: 9/8/16	en en en en en en en en en en en en en e	Location: Colosson Stack
Time: 1744-1804 / 3/8/1-1831	_	Run#: 3 E / 3 F
Meter #: <u>VB - 2</u>		Y-Factor:
Barometric Pressure, in.Hg: 30 00		Operator: Milde
Ambient Temperature, °F:		Purge Time:

	<u>Vacuum Leak Check Data</u>							
•	Initial, in.Hg	Final, in.Hg	Time, min.					
Pre-test:	25	25	7	-0,00 l				
Post-test:	24	24	1	Q 000 P				

1.1.	Clock	Meter		Dry	Gas			10,0
Sample	Time,	Volume,	Rotameter	Meter 7	Гетр.,	Vacuum,	Probe	Constitution
Time (min)	(24-hr)	(liter)	Setting	(°)	F).	(in.Hg)	Temp, °F	
0	@1744	476775	1.1	107	107	2	260	50
5	1749	4772.7	1,1	107	107	2	260	51
10	1754	4777.75	1.7	107	106	2	2660	51
15	1754	47826	le l	106	tole	2	258	53
20	1804	47.87,27	let	106	65	2	262	53
Cour Ker	leah chich: 5"	@/min = 0, esp 4		:				
0	1811	4787.73	1.1	103	103	4	-260	49
5	1816	4793.05	lil	104	103	4	261	51
10	1821	4797,7	1.1	104	104	4	260	50
16	1826	4800,6	101	104	104	4	260	53
20	1831	4807.04	1.1	103	103	4	257	52
Pour Her	LC = 5"@/	iu = 0.00 R		1				
	<i>LC = 5" @ /_c</i>	Liu = 0.00 K	in comple hal	ding con	tainer			_

$$V_{\text{std}} = V_{\text{m}}(\text{liters}) \times \text{ Y} \times 17.647 \times \frac{P_{\text{b}}(\text{in.Hg})}{T_{\text{m}}(^{\circ}R)}$$

$$C - 0031 - 3E \qquad L \quad 1803644 - 31 \quad 766 \quad \#6 = 19.52 \, \text{L}, T_{\text{m}} = 106 \, \text{L}$$

$$C - 9031 - 3F \qquad \text{L} \quad 1803694 - 56 \quad \text{Trio} \quad \#31 = 19.31 \, \text{L}, T_{\text{m}} = 104 \, \text{L}$$

EPA METHOD 30 VOLATILE ORGANIC SAMPLING TRAIN (VOST) SAMPLING DATA

Company: AK Steel	City: Middle town, Oft
Date: 9/15/162	Location: Confortion Stech
Time: 4 0945-1005 / 1020-1640	Run#: <u>C-003(-4A</u>
Meter #: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Y-Factor: 10085
Barometric Pressure, in.Hg: 30,24	Operator: Mill
Ambient Temperature, °F:	Purge Time:

Vacuum Leak Check DataInitial, in.HgFinal, in.HgTime, min.Pre-test:2510. co. lPost-test:221e.co. l

		Clock	Meter		Dr	y Gas			Coerder
	Sample	Time,	Volume,	Rotameter	Meter	Temp.,	Vacuum,	Probe	Loesser
	Time (min)	(24-hr)	(liter)	Setting	, ((°F)	(in.Hg)	Temp, °F	L °F
i 40	ρ	0945	4811,00	1.0 L	48	68	2	282	42
		0950	4815.30	1.0 8	70	68	2	237	43
44	10	0 955	4819.9	1.02	71	69	2	25-9	44
(' '	19	1000	4824,8	1.02	72	70	2	25-9	46
	20	1005	4829,44	1.0l	74	71	2	260	43
	fait,	lest 5" Hg	0/mil = 0.00%	test					
		,							1
	0	1020	4829.84	1.0 8	74	74	2	258	45
4B	6	1025	4834.75	1.02	75	75	2	259	47
	10	1030	4839,4	1.0 l	76	75	2	266	48
	15	1035	4843,9	pol	27	76	2	264	1/8
	20	1040	4848.72	1.0 l	76	76	2-		47
	Poer Kir 5	1/2 @/ Min =	0,50 l	•				,	[/'
	Nitrogen pur	célactivated co	rhon nacking	in sample hal	ding	ntainan			•

$$V_{std} = V_{m}(liters) \times Y \times 17.647 \times \frac{P_{b}(in.Hg)}{T_{m}(^{\circ}R)}$$

$$+ A L(924178-2) \Gamma/{^{\circ}} + 2 = 18.446, T_{m} = 70$$

$$+ B L(824178-5) T_{h}, & \# 5 = 18.886, T_{m} = 75$$

EPA METHOD 30 VOLATILE ORGANIC SAMPLING TRAIN (VOST) SAMPLING DATA

City: Milole How OH
Location: July Syah
Run#: 4-0031-46/60031-45
Y-Factor: 1.085
Operator: all
Purge Time:

	<u>Vacuum Leak Check Data</u>						
	Initial, in.Hg	Final, in.Hg	Time, min.				
Pre-test:	25	23	0.00 l				
Post-test:	25	25	1 000 L				

		Clock	Meter		Dry	Gas			
	Sample	Time,	Volume,	Rotameter	Meter '	Temp.,	Vacuum,	Probe	Combine
	Time (min)	(24-hr)	(liter)	Setting	(°	F)	(in.Hg)	Temp, °F	a F
220	0	1055	4849.15	1.0 €	25	75	2	260	48
46	3-	1100	4854.0	1.0 8	76	77	2	256e	49
10	/6	1106	48587	1002	77	7 B	2	256	50
	15	MIO	49.63.4	1.08	78	78	2	257	50
	10	1115	4868,26	1.0 l	79	77	2	258	48
	for fer 5	1 R/min =0000 l							
	0	1126e	4868,67	1.0	78	78	3	257	48
40	5"	1131	48735	1.0	79	79	3	258	<i>4</i> 8
74	lo	1136e	4878 1	1.0	80	79	3	258	48
	13	1141	4882,8	1.0	82	80	<u></u> Э	258	47
	20	1146	4987,65	10	83	80	3	761	49
	Perr Lest.	5" Hz @/mr	0.00 l	,		(-		• Tale	
	Nitrogen pur	ge/activated ca	arbon packing	in sample hol	ding con	tainer:			_

$$V_{\text{std}} = V_{\text{m}}(\text{liters}) \times \text{Y} \times 17.647 \times \frac{P_{\text{b}}(\text{in.Hg})}{T_{\text{m}}(^{\circ}R)}$$

$$4c = L1826178 - 10$$

$$40 = L1826178 - 11$$

$$760 = 19.11 l, T_{\text{m}} = 77$$

$$40 = L1826178 - 11$$

$$760 = 19.98 l, T_{\text{m}} = 80$$

EPA METHOD 30 VOLATILE ORGANIC SAMPLING TRAIN (VOST) SAMPLING DATA

Company: AK Steel	City: Model Lava, OH
Date: 9/14/16	Location: Combassian Stack
Time: 1168-1218 (228-1248	Run#: <u>C-603/-4E/4</u> F
Meter #:	Y-Factor:
Barometric Pressure, in.Hg: 30,24	Operator: Mlln
Ambient Temperature, °F:	Purge Time:

		Vacuum Leak Chee	ck Data	
	Initial, in.Hg	Final, in.Hg	Time, min.	
Pre-test:	2=	25		-0.00 L
Post-test:	25	25		0.00 l

		Clock	Meter		Dry Ga	S			Guel
	Sample	Time,	Volume,	Rotameter	Meter Ter	np.,	Vacuum,	Probe	0 /
	Time (min)	(24-hr)	(liter)	Setting	(°F)		(in.Hg)	Temp, °F	
3€6	0	1158	4888, 816	1.01	83	83	2_	ZLeD	49
46	5	1203	4893.15	1.08	9 66	84	2	257	50
()	10	1208	4898,10	108	87	85	2	261	50
	15	1213	4903.05	1-02	88	85	٧	255	50
	20	1218	4907.63	1.08	70	87	2	26le	50
	Port Kir 5	11/2 @/win							
		=0.00-l							
3	20 0	1228	4908,42	1.0€	89	88	2	255	51
46	5	1233	4913,0	1.0.0	90	89	2	255	51
()	00	1238	4917.9	60 l	89	88	2	258	51
	15	1243	4922.5	1.02	90	89	2	257	51
	20	1248	4927.34	1.08	8,8	88	2	260	51
å	POST KIT 511	1/2 Clair = 0, S	oe '						
	Nitrogen nur	ga/patizzatad ar	rhan poalsing	in comple hal	dina aantair	2024			

$$V_{std} = V_{m}(liters) \times Y \times 17.647 \times \frac{P_{b}(in.Hg)}{T_{m}(^{\circ}R)}$$

$$4E = L1826178-6 \qquad Trio +6 = 19.47 l, Tm = 86$$

$$4F = L1826178-3 \qquad Trio +3 = 19.0 l, Tm = 89$$



Plant: AK Middletown

1 Date: 8/23/16 Pretest Leak Rate: . 112 cfm @ 10 in Hg. Pretest Leak Check: Pitot: Orsat: Sampling Location:

764 Operator: 60 Ps: -1.9 Sample Type:

CO₂: CE O₂: CE CE O₂: CE CE O CE CE O CE Diameter: 3 5.5" K: 3-1130 2.0991

Y: 0.989 AH@: 1.783 Post-Test Leak Rate: 0.012 cfm @ 18 in.Hg. Post-Test Leak Check: Pitot: $\sqrt{2}$ Orsat: MThermocouple #: $\overline{T}3-5$ Filter #: Untared Nozzle D: 0.213 Assumed Bws: 6.2 Meter Box#:_

		7777			Ι		1		i	ŧ	1	ı	1	1		ı	1	1	1		Т	ï		1		B
Pump	(in. Hg)		00/	8/	81	8/	81	8/	18	17	81	17.5	17.5	17.5			1			E	,					13
Dry Gas Meter Temp.	Outlet		67	67	89	69	70	11	73	73	46	44	75	75												
Dry Gas M	Inlet		29	67	89	69	20	11	72	73	46	hh	75	75						-						
Anx	Temp.		N.A.					•				-														
Tuninge	Temp. F		58	56	57	58	59	59	57	19	62	62	19	62												104
Temperature BF	Filter		200	260	259	259	360	259	260	258	260	260	259	259												
ţ	Probe		250	252	360	254	196	258	256	258	251	256	349	256												
Stack	Temp (Ts)		44	66	101	101	401	112	2//	109	120	121	123	118								1				
ΔH	Actual		4.2	4.3	4.3	4,3	4.0	4.0	3.8	4.0	4.0	3,8	3.9	4.0						•				•		
Ā	Desired		6.1	6.1	6,5	6.7		s, 8	5.9	6.3	6.0	5.6	6.2	6.0							•	•	-			
Velocity	Head		3,1	3.1	3,3	3,4	3. d	3.0	3,0	3.2	3,1	2,9	3,2	3,1												
Gas Meter	Reading	828.052	831,771	835.063	838.507	842,025	845,423	849.020	852.238	855.778	859,174	862.534	865,717	869,302			5H5.									
Clock		-1201		1832	1045-	11.3-	-67211	1		1259	1234-	1,256-		13347		-	bd minsts									
Sampling	Time	0	330	0.530	10:00	1322	8 8:91	20:0 K		26.29	29.52	33.15	36.17	39.37			39	•								
Traverse	Number	0	1	2	3	ή	5	9	1	2	3	h	5	b	1	2	3	4	7.	é		2	3	h	5	9
			-					/	3	•												·	· <u></u>			

 $\overline{Tm} =$

 $\Delta V_{\rm m} = H/, 150 \sqrt{\Delta p} = 1.7648 \Delta H = 4.025 T_S = 1.000$

OP= 3,1333

Plant A/Date 8/3 Sample Lo Train Prepa Sample Re Comments	K Middle 23 1/6 S cation Push arer EZ/ covery Person M	fown ample Box No. -> Bu, huse BD DA ethod 26A	Skik Sample Bar Bar	Run No. S Job No. S Filter No. Head No. 2 cometer No. alance No.	7-26-1 20174-0172 Tefler TWC: co-	· - - -
Front Half Acetone Container		Liquid Level Marked	Sealed			
Filter Container	No. <u>Te</u>	flon	Sealed			_
Description	n of Filter	clean				
Samples St	tored and Locked	1 NA				_
Back Half/ Container	<u>Moisture</u> No.	Hisay :	Impinyers			
Liquid Lev	el Marked		Sealed _			_
Time NTo	Contacts	Initial Vol		Weight (gra	ms)	
Imp. No.	Contents	· (ml)	Initial	Final	Net	
1	0.1 N 1/2504	50	706.8	709.4	2-6	
2 ·	0.1 N H2504	100	763.9	7665	2.6	
3	01 112504	100	774,4	773.3	-1.1	
4	2.1 N NapH	100	756.2	7547	-1.5	
5	0.1 N Na Ot	100	762.0	762.2	0,2	
6 ·	sition bet	2 <i>50</i>	926.1	936.5	10,4	
r	l'otal	<i></i>	•		13.2	VIS
Description	n of Impinger Ca	tch:	d	ees B	ws=1.5%	
				•		

Pro=73.7%

Sample Recovery Data-M. doc

Sample Type: $\frac{HCL}{M264}$ Operator: $\frac{GD}{CRM}$ Pbar: $\frac{39,95}{CRM}$ Ps: $\frac{1.9}{CRM}$

CO₂: CR ~ O₂: CR ~ Stobe Length/Type: 3'6/ Pitot#: 73-4
Stack Diameter: 35,5" K: 2,0949

																,			<u>-</u>						\	2	
Pump Vacuun	(in. Hg)		17.5	18.0	18.0	/8.0	18.0	18.0	18.5	18.5	18.5	18.5	18.0	18.0							,					10	978
eter Temp. n	Outlet		26	44	77	78	78	79	79	80	80	80	19	79					-			-					()
Dry Gas Meter Temp. Tm	Inlet		76	77	47	78	78	79	08	80	80	80	19	18													Tm= 78.5
Aux.	Temp.		N.A.	5											\$												\overline{Tm}
Impinger	Temp. T		90	59	19	09	59	58	55	54	56	58	58	59													
ture EF	Filter		262	258	259	258	259	258	260	260	360	259	258	260													
Temperature EF	Probe		250	249	251	253	253	250	251	255	258	261	255	361													ı
Stack	Temp (Ts)		123	//3	9//	8//	118	117	611	112	112	111	111	108								,					= //5
H	Actual		2.9	3.0	3,5	3,1	3,3	3,2	2.7	2.9	2.8	2.9	2.8	2.9										,			2,4 417TS=
Ħγ	Desired		5.4	5.9	5.9	5.9	5.7	5.9	5.7	5.7	5.6	5,6	5.6	5.6							1			1117			$\Delta H =$
Velocity	Head		2.8	3.0		3.0	2.9	3.0	2.9	2.9	2.8	2.8	3,8	2.8													p = 1.7003
Gas Meter	Reading	870.768	425.364	876.855	880,639	884.488	687, 799	841.500	845,018	8 98.342	901,736	905.167	908.529	912.268			62										$42.000\sqrt{\Delta p} =$
Clock) in .	1352	1355	1.	1452	_	├─		ļ	20 × 20 × 20 × 20 × 20 × 20 × 20 × 20 ×	1631-			1728			3 minto										$\Delta V m = 1$
Sampling	Time	0	326	630		1	1420		1933	Ì.	i		1				31.3										
Traverse	Number	0		2	2	h	.5	7	-	2	8	ħ	3	9	_	2	2	h	ئى	9	_	2	a	7	2	e,	

AP= 2.8417

Container No. MA Level Marked Sealed Filter Container No. Teffor Sealed Description of Filter Clear Samples Stored and Locked Back Half/Moisture Container No. F26~2 H2504 Infineers Liquid Level Marked Sealed Timp. No. Contents Initial Vol Weight (grams) Imp. No. Contents (ml) Initial Final Net 1 0.1N H2 504 50 686.9 689.9 3.0 2 0.1N H2 504 100 766.3 767.5 1.2	, , , , , , , ,	K Middle 123/16 S	ample box No.	<u> </u>	Job No. 050	074.0172
Barometer No. To Comments Method 26 Balance No. 4 Front Half Acctone Liquid Container No. Method Sealed Container No. Teffor Sealed Container No. Teffor Sealed Container No. P26-2 H2504 Infraces Liquid Level Marked Sealed Container No. P26-2 H2504 Infraces Liquid Level Marked Sealed Container No. Contents Initial Vol Weight (grams) Liquid Level Marked Sealed Container No. Contents (ml) Initial Final Net 1 1.1N H2504 50 686.9 689.9 3.0 2 0.1N H2504 100 766.3 767.5 1.2	ample Lo	ocation pressur	& Baghouse	—— Cample	Head No. 11	tood Teflon
Tront Half Acctone Liquid Container No. MA Level Marked Sealed Sealed Description of Filter Container No. P26-2 H2504 Infuncers Liquid Level Marked Sealed Sealed Meight (grams) Liquid Level Marked Sealed	ram e rep amole R <i>e</i>	covery Person	CT	Bampie Bar	ometer No. 77	16. Cam
Front Half Acetone Liquid Container No. Mr Level Marked Sealed Filter Container No. Teffor Sealed Description of Filter Cleur Samples Stored and Locked Back Half/Moisture Container No. F26 2 Has of Improcess Liquid Level Marked Sealed Improcess Liquid Level Marked Sealed Improcess Initial Vol Weight (grams) Improcess Comments	metho	of 26	B	alance No. 4		
Description of Filter Clear Samples Stored and Locked Back Half/Moisture Container No. P26-2 H2504 Infineses Liquid Level Marked Sealed Imp. No. Contents Initial Vol Weight (grams) Imp. No. Contents (ml) Initial Final Net 1 1.1N H2504 50 686.9 689.9 3.0 2 01N H2504 100 766.3 767.5 1-2	Acetone		Liquid Level Marked	Sealed	-	
Container No. Teffer Sealed Description of Filter Clear Samples Stored and Locked Back Half/Moisture Container No. \$26 - 2 H2504 Infineses Liquid Level Marked Sealed Hinp. No. Contents Initial Vol Weight (grams) Initial Final Net 1 1.1N H2504 50 686.9 689.9 3.0 2 0.1N H2504 100 766.3 767.5 1.2	7514					
Description of Filter Clear Samples Stored and Locked Back Half/Moisture Container No. P26-2 Hasoy Infineers Liquid Level Marked Sealed Imp. No. Contents Initial Vol Weight (grams) Imp. No. Contents Initial Vol Initial Final Net 1 1.1N Hasoy 50 686.9 689.9 3.0 2 1.1N Hasoy 100 766.3 767.5 1.2		No. Toll.	!^	Sealed		·
Samples Stored and Locked Back Half/Moisture Container No. P26~2		,				
Back Half/Moisture Container No. F26 - 2 H2504 Infine H2504 Infine H2504 Infine H2504 Infine H2504 Infine H2504	Descriptio	n of Filter	Clean			
Back Half/Moisture Container No. §26-2 \$\mathcal{H}_2 \sqrt{0} \text{Imfine ext}\$ Liquid Level Marked Sealed Sealed Weight (grams) Imp. No. Contents (ml) Initial Final Net 1 3.1N fl ₂ S0q 50 686.9 689.9 3.0 2 0.1N fl ₂ S0q 100 766.3 767.5 1.2	ramalas C	torod and I actro	parence and the contract of th	_		
Container No. \$\text{\$\alpha\circ\circ\circ\circ\circ\circ\circ\cir	sambies 9	10160 and Locke			`	
Liquid Level Marked Sealed Imp. No. Contents Initial Vol Initial Weight (grams) 1 0.1N H2 S04 50 686.9 689.9 3.0 2 0.1N H2 S04 100 766.3 767.5 1.2	Back Half	/Moisture				,
Imp. No. Contents Initial Vol (ml) Weight (grams) 1 0.1N H ₂ SO ₄ 50 686.9 689.9 3.0 2 0.1N H ₂ SO ₄ 100 766.3 767.5 1.2	Container	No. P26-2	Hasoy Impo	MGERS		
Imp. No. Contents Initial (ml) Initial Final Net 1 $0.1N$ H_2 SO_4 50 686.9 689.9 3.0 2 $0.1N$ H_2 SO_4 100 766.3 767.5 1.2	ionid T e	vel Marked		Sealed		
Imp. No. Contents (ml) Initial Final Net 1 0.1N Hz SOy 50 686.9 689.9 3.0 2 0.1N Hz SOy 100 766.3 767.5 1.2	adam no	•			Weight (gran	ns)
2 0.1N Hz soy 100 766.3 767.5 1.2			Initial Vol	•		
2 01N Hz 504 100 766.3 767.5 1.2	•	Contents	1		1	Net
in (1.10.72)	lmp, No.		(ml)	Initial	Final	
	Imp. No.	0.1N H2 SO4	(ml) 50	Initial 686.9	Final 689.9	3.0
	Imp. No.	0.1N Hz SD4	(ml) 50 100	Initial 6 86.9 766.3	Final 689.9 767.5	3.0 1-2
5 0,1N NO 0H 100 771.4 770.0 -1.4	Imp. No. 1 2 3	0.1N Hz SOY 0.1N Hz SOY 0.1N Hz SOY	(ml) 50 100 100	Initial 686.9 766.3 740.9	Final 689.9 767.5 741.1	3.0 1.2 0.2
6 Silica Gel 250 932.6 943.3 10.7	Imp. No. 1 2 3 4	0.1N H2 SO4 0.1N H2 SO4 0.1N H2 SO4 0.1N Na OH	(ml) 50 100 100	Initial 686,9 766.3 740.9 752.8	Final 689 9 767.5 741.1 752.5	3.0 1.2 0.2 -0.3
Total	Imp. No. 1 2 3 4 5	0.1N Hz SOY 0.1N Hz SOY 0.1N Hz SOY	(ml) 50 100 100 100	Initial 686.9 766.3 740.9	Final 689.9 767.5 741.1 752.5 770.0	3.0 1.2 0.2 -0.3 -1.4

Sample Recovery Data-Ivi5.doc

	•																										,	-	
#: 73-4 9/20 1@: 1/783 10 in Hg.	t: \	Vacuum (in. Hg)		5.0	2 N	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	7.0	6.5	5.5	6.5	7.0	6.0						180-081			10	
· 1 • 1 • 1	1 1 5	Tm Outlet		77	26	77	7.8	78	78	27	77	77	77	17	78	77	7.7	77	7.8										
Thermoc Filter #: Y: 0.9/cfm	eck: Pitot: (2)	Inlet		73	97.	186	79	80	79	78	24	77	78	78	28	77	18	18	1	>								77	
156	Post-Test Leak Check: Pitot:	Aux. Temp.		N.A.																									7
Nozzle ID: 1/2 Assumed Bws: Meter Box #: 1	Post-Te	Impinger Temp. °F		49	59	57	289	585			09	57	56	58	59	57	-	-		-									
	4	Temperature EF		260		260	2000		1-	259	260	260	259	260		-			-										7
	# 13-4 -6106			360	258	256	7 6	255	257	260	257	361	259	257	258	262	250	3 6	A C &	40%									0
) per	6/ Pitot#:	Stack Temp (Ts)		28	99	110) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	717	001	2//	7.11	115	1/2	113	113	112	6	111	511	١١ ٨								İ	Ts = 10
	Type: 3'6/ er: 35.5"		Actual	1,9	1,8	1.7	1,9	7 0	9/	8/	61	7.7	1.8	1.7	1.9	~	0 7	6/1	۱, ۵	8.1								_	$=\frac{l \cdot \delta L Ts}{}$
pe: (#čt./ r: 29.9	Probe Length/T Stack Diameter	\[\frac{1}{2} \]	Desired	1.9	87	1.7	6.7	6.4	0,1	0 0	0 /	127	×	2 /	5	-	0,3	2 6	۷٬٪	8.7									$=H \wedge 187 \wedge H =$
Sample Type: #££ 26# Pbar: 34.97 6 CO ₂ :		Velocity		7,7	3,0	3.0	3,3	33	2.1		8 n	3.0	3.5	200	2.0	3 6			. 4	3,2									$\sqrt{\Delta p} = \frac{1}{\sqrt{\Delta p}}$
# 3	. .	Gas Meter	GU CIP	915 527	41 ·	920.515	923.061	925.588	478.137	450,172	755,507	420 1.00		0112 500	173,578	476,610	448,458	951.134	60	956,627									43.925
20 E	of cfm (Clock	5 44.	1821	-0701	-5501	1107.	1138	67/1	1203	1321	25.57	1259		1336	- 1			1506-	1523-									= mV\(\nabla\)
AK M Location: her: 8-26	uk Rate:	Sampling	l me	200			12:57	16:14	19:52	23:30	27:03	30.37	57.07	57.50	40.54	44.41	47.45	51:18	54:51	58:01									
Plant: AK M Sampling Location:	Pretest Leak Rate: 100 (cfm @ 10 in.Hg	Traverse	Number	s) -	7	100	h	5	9		7	2	J- L	2	e		2	2	7	8	e	_	2	W	7	8	9		

147 F - 51

Plant A Date 8/2	K Steel N	liddlefoun Sample Box No. Sure Baghous			2074.0172
Sample Lo	cation <u>Pres</u>	sure Baghous	e	Filter No.	***
Train Prepa	arer <u>Et/C</u>	D	Sample	Head No	6
Sample Re	covery Person _	cJ	Bar	ometer No	TWC. Can
Comments	M2	6	Ba	alance No	2
Front Half Acetone Container		Liquid Level Marked	Seeled		
Container	10.		Scarcu		
Filter Container	No		Sealed		
Description	n of Filter				,
Samples St	tored and Locke	d			
	Moisture ρ-2. No. <u>Ο</u> Ι Ν	6-3 H2504			· · · · · · · · · · · · · · · · · · ·
Liquid Lev	el Marked		Sealed		
		T-141-1 X7-1		Weight (gray	mal
Imp. No.	Contents	Initial Vol	7. *.* 1	Weight (gran	
4		(ml)	Initial	Final	Net
1	0.1 NH2504	50	687.8	693.1	5.3
2		100	790.6	793.9	3.3
3	L	100	773.5	773.6	0:1
4	O.IN NaOH	100	778.6	777.9	-0.7
. 5	L	100	763.2	764.0	0.8
6	54	250	928.8	941.0	12.2
	rotal	. 0 - 0	1000	7 7 7 7	21.0
	•		1	<u> </u>	4.0
Description	n of Impinger Ca	utch:	clea		Bus = 2

nple Type: #26 / M26# Operator: 6\to Pbar: 30.30 Ps: -1.9
CO.: 6645 O.: 6644

CO₂: $\frac{\mathcal{L}\mathcal{E}\mathcal{M}}{\text{Probe Length/Type}}$: $\frac{3'6'}{5'5'}$ Pitot#: $\frac{73^{-6}}{5'5'}$ Stack Diameter: $\frac{35.5}{5'5'}$ K: $\frac{6}{106}$

. II	- Fig.																				-						
Pump Vacuum	(m. Hg)		5.5	5.5	5.5	6.0	0,0	6.0	5.5	7.0	7.0	7.0	8.0	8.0	7.5	7.0	7.0	7.0			•						
Dry Gas Meter Temp. Tm	Outlet		11	- 22	11	- 27	78	78	78	64	79	08	80	18	/8	83	83	48					_				John 1
Dry Gas M T	Inlet		44	77	22	28	28	79	19	80	80	80	18	. 18	82	83	84	84		,							08 =
Aux	Temp.		N.M.																								\overline{Tm}
Impinger	Temp. T		62	59	57	58	00	57	56	57	58	59	57	58	59	60	57	59			"		·				
ture EF	Filter		259	358	259	259	259	259	258	1356	259	260	360	258	259	259	360	261			_						
Temperature EF	Probe		348	250	360	257	198	260	258	257	258	456	360	259	254	254	259	263									_
Stack	Temp (1s)		103	101	112	120	126	123	119	115	11.7	118	116	8//	123	122	123	121				ٍ بہ				·	= 118
)I	Actual		1, 9	1.8	1.8	1.9	1.8	1.7	1.7	1.6	1,7	1.7	6.1	8 1/	1.7	1.7	87	1.8						i.			1, 77 Ts=
ΗV	Desired		6.1	87	1.8	1.9	1.8	1.7	1.7	1.6	1.7	1.7	63)	.√ .>>	1.7	1.7	8.1	81			The state of the s	•				/	$7602\overline{A}H=$
Velocity	Head		3,2	3./	3,7	3.4	3,2	3,1	3.0	3.8	2.9	3.0	3,3	2,7	3.0	3.0	3,3	3,2									-
Gas Meter	Reading	958.406	961,020	963.632	966.368	969.075	971,803	964.46	870.779	479,656	982,213	984.770	987,491	990,131	992,868	995.411	998.048	000.733									42.327 VAD
Clock	2	1028- 9		x		11303.			1155		, -8EC/		-	١.	1350-	-		506-	100								$\Delta V m = c$
Sampling	Time .	0	3:30 1	6:58		13:55 !		-	1:37	į	l _			1	-		52:40 /	55:18									7
Traverse	Number	0		2	W	h	5	2		2	3		V.			7	a	7	40	9	,	2	W	7	r	e,	

 $\frac{1}{C} \frac{1}{C} \frac{1}$

AP= 3.1

Plant DKSteel - Middletown	Run No. P-26-4
Date 6/25//6 Sample Box No.	Jack 3 Filter No. Tefle
Sample Location Pushing Ba, house	Stack 3 Filter No. Teflu
Train Preparer 50	Sample Head No. 2
Sample Recovery Person OA	Sample Head No. 2 Barometer No. Wc.co-
Comments Method. 26	Balance No. 2
Front Half Acetone Liquid Container No Level Marked	Sealed
Filter Container No. Teflo	Sealed
Description of Filter	
Samples Stored and Locked	
Back Half/Moisture Container No. 12504	
Liquid Level Marked	Sealed
Imp No Contents Initial Vol	Weight (grams)

T NT-	Contact.	Initial Vol		Weight (gra	ms)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	0.11 1254	50	703,4	709.1	5.7
2	UNN HOSE	(w	771.6	175-5	3,9
3	0.1NH 2 SU-1	(10)	781-8	782.2	0,4
4	01N Ng 04	(00	7547	755-9	1.2
5	OIN Na OH	/W	762-2	762.	~ o, l
6	56	250	9365	953.8	17.3
	Total				28,4

Description of Impinger Catch:	c (la	· · · · · · · · · · · · · · · · · · ·
, ,		

Sample Type: Pretest Leak Rate: o. w. offm @ 12 in. Hg.
Pretest Leak Check: Pitot: 1 Orsat: Run Number: C-HCk-1 Date: Plant: /// / Sampling Location:

M Operator: Probe Length/Type: Stack Diameter: CO_2 :

Nozzle ID: 0.500 Thermocouple #: 16-151 Post-Test Leak Rate: 10 cfm @ Filter #: Post-Test Leak Check: Pitot: Assumed Bws: 20 Meter Box #:

																					.,					_
Pump Vacuum (in. Hg)		h	S	3	3	6	4	ኣ	Ŋ	S	~	h	5	<	10	0	0/	0)	11	13	14	7	15	0	_	0.80:05
ater Temp.		38	S S	89	89	93	89	80	89	89	24	89	88	20	90	90	90	90	90	4 0	90	00	00	90	S	, ·
Dry Gas Meter Temp. Tm Inlet Outlet		88	88	88	88	. 68	90	84	80	90.	90	. 13	93	. 16	41	93	92	93	93	93	93		S	2	वप	0 do
Aux. Temp.		W/W					Billiado (Bradalla)	Whimlest qui qui q	Wanging Associated	an Difference on the Control of the	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	والمستحدث والمستحدث	accentions.	Marine	areomotes:	الأستان المراجع المراج	anie anie	energy Advisory	Morquight Outlaide	**************************************	Will be designed by the second	ningg//elimineter	······································		>	\overline{Tm}
Impinger Temp. °F		65	65	63	58	57	67	57	58	58	59	0	19	60	B 4	25	-3	55	55	56	57	57	58	59	25	
Temperature EF Probe Filter		253	262	265	266	498	264	13C	263	264	260	120	260	265	159E	263	263	165	EDE	764	263	3 265	263	26 4	763	
		266	1990	49E	49C	764	136	1264	,	19C	26%	B	200	263	_	262	19C	7	69E	205	J64		363	764	764	
Stack Temp (Ts)		302	86C	305	300	311	304	300	168	the	300	267	308	306	306	08 6	265	285	2999	5/15	307	311	309	1314	015	300
H. Actual		(.5	1.2	5.	1.5	$\frac{1}{\sqrt{3}}$	1.5	5.)	51	8-1	5.1	6.	1.5	i	1.5	1.5	1.5	E')	51		18	1,5	1.5	Į,	51	1.446s, TS
Desired		ئ	[,2	1.5	ر. ج	ż	6.5	7.5	1,5	1.5	57	ú	7.5	à	1.5	6.5	15	(3)	(.5		Ž	5.	(.5	5)	الم	$\frac{1}{\sqrt{2}} \frac{1}{\sqrt{4}} = \frac{1}{\sqrt{2}}$
Velocity Head		, 2,	,63	μο ,	401	40,	40.	40,	70	ħo,	40	.03	400	70,	HON	70.	20	60,	40,	ξο,	70,	40.	Ho,	70.	40.	$\sqrt{\Delta p} = \sqrt{0.55}$
Gas Meter Reading	898 11.0	<i>P</i>	r.	903.2	9.409	9.30	90b. 3	410, 1	411.8	9.5%	415.4	4,17	6/8.9	420,6	923.3	924.1	8.566	27.5	C. P.C.	9.00.0	432,5	934.2	9359	27.5	130.866	40,997
Clock Time	1450	1453	1 4 55	19 T	3	500	1505	1911	1530	1580	1535	1587	1530	1535			ch51	54	1547	1550	553	1555	1558	1,000	1883	ΔVm =
Sampling Time	C	2,5	io V	7.5	0	25.5	Ţ	(7.5	ş	23.5	38	516	30	32,5	35	37,5	2	43.5	3	277	3	200	2	575	S	
Traverse Point Number	0		2	n	3	5	-S	6	SC.	5	6		(3)		Co	-~	7	2	9	7	A	0	0)		ū	
L	1	1	1	l	1	'		\$ (10 10	J	1) ₁₇₍₂₎	Erg	>	I	1	J	.1	1	1	,		2	<u>*</u>	

AR 19/1- 10/28/2

	26
Plant Aksteel Middletown	Run No. C-HET-1
Date 9/6/16 Sample Box No \$3-5	Job No. 52074,0172
Sample Location Continuo Stack	Filter No. Tefus
Train Preparer DA Samp	le Head No. 54-9
Sample Recovery Person $\mathcal{O}(RV)$ Ba	arometer No. Two. o-
Comments M26	Balance No.
Front Half Acetone Container No. Liquid Level Marked Sealed	NA
Filter Container No. Sealed	NA
Description of Filter N(A	
Samples Stored and Locked	
Back Half/Moisture Container No. C-HCI-I H2SO4	
Liquid Level Marked Sealed	

Trans No.	Contents	Initial Vol		Weight (gran	ns)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	OUN the SUY	O	710.2	762.0	51.8
2	0.11 /2544	cw	782.0	809.9	27.9
3	ONN Az Soy	100	95300767.8	772.4	4.6
4	OINNAH	100	755-9	755.0	-0.9
5	O(N NaOH	(W	762-1	772.5.	10.4
6	5 (-	250	9538	966.1	12-3
	Total			123	106.1

Description of Impinger Catch: _____yellow

Bar = 11.1-1-

AK Middletown

Run Number: C 284-2 Date: 4-8-16

Pretest Leak Rate: $\frac{\partial \omega}{\partial \omega}$ cfm (a) $\frac{\partial}{\partial \omega}$ in.Hg. Pretest Leak Check; Pitot: $\frac{\partial}{\partial \omega}$ Orsat: $\frac{\partial}{\partial \omega}$ Plant: M. Combuston Stack

264 Operator: Sample Type:

FIELD DATA SHEET

Pbar: 30.00 Ps: -.90
CO₂: 15
Probe Length/Type: 66 Pitot#: 16.15P

Stack Diameter:

Nozzle ID: .500 Thermocouple #: 76-57 Assumed Bws: 10 Filter #: Untaned OZ

Meter Box #: 2 Y: 100% AH@: 1687

Post-Test Leak Rate: 100 cfm @ 10 in.Hg.
Post-Test Leak Check: Pitot: 100 Orsat: 100

																			,								6
Pump Vacuum	(in. Hg)		Λ	~	~	~	^	₩,	ኅ	7	^7	۲	۲	3	۲	W	^	~	*	~	Μ	Μ	~	\sim	رس	~	2
eter Temp. n	Outlet		70	77	73	2	73	2	~	1/2	24	hC	K	56	52	2	77	22	78	3/	79	79	79	80	80	B	1
Dry Gas Meter Temp. Tm	Inlet		70	75	73	Z	74'	75	76	77:	78	79	18	· 78	83	ZA	. 18	200	38	98	36	28	87	87	23	RA R	= 78
Aux.	Temp.		M							and the ware to come	***************************************		<u></u>	William 100 mag												>	Tm =
Impinger	Temp. T		65	65	65	ES	64	64	62	B	65	69	56	28	85	5%	57	57	57	57	53	45	54	59	54	ρÒ	
fure EF	Filter		260	1,9E	200	500	He	SE	12	hPC	19E	263	19C	49E	KK	É	MR	1,9%	264	196	265	120	265	252	SR	261	
Temperature EF	Probe		260	365	\mathcal{D}_{α}^{c}	CHE	265	262	ST	520	SK	hH.	ESE	59C	265	4 9C	365	265	265	265	hIC	1.9C	365	365	1,90	365	ı
Stack	Temp (Ts)		324	312	321	333	319	323	330	4 hs	387	340	393	346	797	397	367	895	369	370	CL S	371°	370	8 9E	873	115	= 361
Ŧ	Actual		h-1	1.4	h-)	1.4	5,1	1.5	51	5-)	-	1.3	(.3	[-3	1.3	(-3	3	五	7.	h . l	H.)	4.7	H)	7.7	4	h ")	I, H $\overline{Ts} =$
ΗV	Desired		<i>h</i> `	1.4	1.4	H')	ا بح	5)	5.1	5.1	7	(.3	(,3	2	1.3	1.3	1.	7.)	#:-	þ.	1.4	1.4	h.J	ドー	ギ	H. 1	$=\overline{H}$
Velocity	Head		p.	40.	1,00	40,	40.	40.	40'	40,	40.	40,	70.	يۇ	-8,	-J ₀ '	49,	40,	20	ho	, Od	i Oi	<u>a</u>	र्ड	ż	4	\mathcal{C} = $d\nabla \wedge$
Gas Meter	Reading	HLC 661	200.9	202.7	4.40C	206.2	2079	2067	p:11℃	213,3	214.S	2/6.5	718.2	219.5	371.6	223.3	224.9	276.5	734.4	730.1	231.9	233.5	235, 3	251.2	239.0	36.436	$\sqrt{C_0/.1} = mV$
Clock		1008	10/0	1013	5101	8101	0001	[CO]	Seo)	850)	1030	[033	(0.35	103%	2501	ChOI	5401	3401	090)	1053	550)	4501	8	1103	1105	108	ΔVm =
Sampling	Time	0	2.5	5	7.5	9)	5.01	1/5	17.5	20	22.5	25	37.5	હ	33.6	E. S.	37.5	07	42.5	Z	47.5	20	52.5	55	51.5	03	
Traverse	Number	0	,,,,,	Ce	~	>	3	.		45	5	0	=	C		a		7	·w	و	-	⊸ ^	6	0	=	Q	

Are 00% : St

Plant (NV) teel MdNets.~ Date 9/9/16 Sample Box No. SP	Run No. C-26-2 Job No. 50074.0172
Date $9/9/16$ Sample Box No. $9/9/16$	Job No. 50074.0172
Sample Location Combusting Start	Filter No. Quarty
Train Preparer	Sample Head No. 9
Train Preparer	Barometer No. TWC
Sample Recovery Person DK Comments Me Had 26A	Balance No.
Front Half Acetone Liquid Container No Level Marked	
Filter Container No.	Sealed
Description of Filter	
Samples Stored and Locked	
Back Half/Moisture Container No. ON NASON TA	~D>
Container No. ON Whoy in	Ψ)>
Liquid Level Marked	Sealed

Imp. No.	Contents	Initial Vol		Weight (gra	ms)
шр. 110.	Contents	(ml)	Initial	Final	Net
1	114504	50	708.3	756.3	48.0
2	1-16 584	100	786.1	827.7.	41.6
3	142504	(0)	757.7	767.2	95
4	Naolt	(00	755,0	7728	178
5	Wull	100	772,5	7545	-18-0
6	56	250	9 beloil	974.8	8.7
Т	Cotal				107,6

Description of Impinger Catch:	Close.
	00 5= 11.02 100 0%
	= 103,000



Plant: HK MCHEPOUN Stack
Sampling Location: COMBUSPON STACK
Run Number: C26A-3 Date: 9-8-16
Pretest Leak Rate: .201 cfm @ 10 in.Hg.
Pretest Leak Check: Pitot: _20 Orsat: ______

Sample Type: $\frac{\cancel{HCL}}{\cancel{RCL}}$ Operator: \cancel{NM} Pbar: $\frac{\cancel{30.0}}{\cancel{30.0}}$ Ps: $\frac{\cancel{.30}}{\cancel{.30}}$ Co₂: $\frac{\cancel{.30}}{\cancel{.30}}$ Probe Length/Type: $\cancel{6'}$ Gt Pitot#: $\cancel{76'}$ - $\cancel{5'}$ Stack Diameter: $\cancel{68}$ K: $\cancel{53.1/3}$

Nozzle ID: . Soo Thermocouple #: 76-15 Assumed Bws: /o Filter #: Unless Qz

Meter Box #: 2 Y: 1.005 AH@: 1.652

Post-Test Leak Rate: 000 Cin.Hg.

Post-Test Leak Check: Pitot: 100 Corsat: 000 Corsat:

Pump Vacuum	(in. Hg)		~	~	~	~	~	Μ	>	~	3	3	3	>	3	3	>	3	3	3	~	8	2	PR	r (3/	
eter Temp. n	Outlet		B	80	R	80	80	×	80	8/	81	/8	Ø	8/	Z	83	83	, E	Ø	93	63	84	<i>5</i> %	85	85	L	!
Dry Gas Meter Temp. Tm	Inlet		R	80	79.	20	83	8	83	23	87	87	8	83	B	. 16	91	16	42	65	93	93	93	2	hЬ	2	n= 85
Aux.	Temp.			`			277 an gaine an	W S S S S S S S S S S S S S S S S S S S	Marrie of April 19	en en en en			_w , p o o o o o	/2-3-H			SSS (No. 10 months)		32 ₄₃ ,44,000							>	\overline{Tm}
Impinger	Temp. °F		65	65	65	59	25	27	57	95	58	53	53	59	54	62	69	63	63	63	59	65	65	ç,	63	ē	
iture EF	Filter		LIC	270	268	255	267	261	363	All	CH	267	263	h9E	263	R	1396	1500	1900	1,9C	266	h9C	Her	26%	ABY	Z	
Temperature EF	Probe		25c	h9C	265	M	hH	LIC	59E	264	S	263	190	SOC	265	160	262	263	CHE	Hot	59C	HOC.	70%	763	706	HOP	Ļ
Stack	Temp (Ts)		336	374	375	376	379	380	380	381	188	185	387	38.2	5850	395	392	100	340	688	395	377	373	381	382	379	= #
E	Actual		(.5	4.1	6.1	1.4	4.)	4)	7.	2,	5.	4.7	7	H)	<i>h:</i>)	5	٠.	7.	J.)	<u> </u>	ヹ	-3	<u>ਤੰ</u>	۲.		<u>-</u>	T.Y Ts
НΔ	Desired		1.5	7.	7:	7-	7,1	1.4	- <u>-</u> -	7.	7	H	h:)	<i>h</i>)	7-1	<u>ה</u>		۲.)	7:)	エ	3			<u>J</u>	<u>J,</u>	J.	$=H^{\Lambda}$
Velocity	Head		70	20%	70.	40,	40.	170	10.	10.	40.	40.	150	170	ho,	70.	}o,	10,	10	70,	yo,	ņo	ै रु	40.	j o	5	$\sqrt{\Delta p} = \frac{\Delta \Delta p}{\Delta p}$
Gas Meter	Reading	241.600 B	243.2	245.1	246.9	248.7	250.6	252.3	7.45E	256.3	257.6	P. ph	261.1	77.0	777	266.4	263.3	200.3	271.7	773.4	775.4	277.0	278.8	180.5	Q D 3	340. Her	ی
Clock	am r	1155	1/57	ooc!	toE)	1205	1207	1310	212	1215	rigi	027	1232	1225	737	1230	25.0			32	ene!	21/15	Chel	9561	1352	550)	l II
Sampling	Time	0	2.5	S	7.5	0	12.5	75	17.5	20	235	25	275	30	32.5	35	37.5	ηo	200	45	47.5	50	1	 	57.5	00	
Traverse	Number	0		C	~	h	>	9	7	۵,	5	0)	-	q	5	ص	60	h	N	Q	7	B	-	9	15	9	

Are De acot

Plant Abstract Management Plant Abstract Management Preparer Sample Recovery Person Comments Action	- 50 = tvo -	Filter No. <u> </u>	
Front Half Acetone Container No.	Liquid Level Marked	Sealed	
Filter Container No.	WA	Sealed	
Description of Filter	Name of the State		
Samples Stored and Locke	d	· ·	
Back Half/Moisture Container No.	Masay Ing	')	
Liquid Level Marked		Sealed	
	Initial Vol	Weight (grams)	

T . NT.	C	Initial Vol		Weight (grau	ns)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	0.1 N H2504	50	693.2	751.9	58.7
2		100	800.0	834.4	34,4
3	1	100	773.2	779.2	6:0
4	O.IN NaOH	100	777.9	778,5	0.6
5	1	100	764.0	764.4	0,4
6	54	250	941.0	950.8	9.8
	Total				109.9

Description of Impinger Catch:	Clear	
	•	Bws = 11.16

Bus = 1116 Zeo = 105,1





Date: \$123/16 Pretest Leak Rate: 200 cfm @ 15 in. Hg. Pretest Leak Check: Pitot: 15 Orsat: Sampling Location: Run Number: P-KGF-Plant:

02: c.p. 36L Pitot#: 73-2 Operator: Probe Length/Type: Sample Type: 07m 39 Stack Diameter: Pbar: 24.15 CO2: CEM

Y: 4.99 AH@: 1.906 Post-Test Leak Rate: 220 cfm @ k in.Hg. Post-Test Leak Check: Pitot: 12 Orsat: -Thermocouple #: +3-2 Filter #: 02-446 0.145 Nozzle ID: 0.213 T Assumed Bws: <u>2.5</u> I Meter Box #: 5

						1								,	,			 T		1			,		\mathcal{C}	ı
$\operatorname{Pump}_{V_{\operatorname{\mathbf{3CHIPST}}}}$	(in. Hg)		ry S	3	\sim	7	J	μS	3.5	25	エ		ì								-				77	
eter Temp. n	Outlet		69	20	20	22	72	73	hζ	75	22							-								
Dry Gas Meter Temp. Tm	Inlet		70	50	7	72	23	73	X	75	75			-												2
Àux.	Temp.		N/A																							T.m ==
Tunninger	Temp. Tr		65	57	500	Í	<i>E</i> 3	59	09	0,7	59														¥.	
ture EF	Filter		260	25	260	260	25	359	1261	ઠેમટ	252															
Temperature EF	Probe		593	261	365	358	092	195	255	361	365															
Stack	Temp (Ts)		80	φĊļ	(0)	hol	20	Ш	114	111											٠,	-				70 =
tri	Actual		5.2	ヹ゙゙゙゙゙゙゙゙゙゙゙゙ヹ	4.9	6.0	5.3	5.4	H.2	4.8	5,1															5.0% Tr=
ΨV	Desired		5.7	4.5	4.9	5.0	5.3	5.4	7.8	4.8	5,1									-						$\leq H \wedge F =$
Velocity	Head		30	3.1	3.3	3.4	2.8	3.7	3,3	33	35															$\sqrt{\Lambda n} = 1.255$
Gas Meter	Reading	700.715	526,405	708.095	711,732	715.497	719. 49H	723,606	727 120	373.046	735.030		ζ,	A STATE OF THE STA	30											34,315
Clock		1021-8	35 KG	1033-36	1046-49				HO-000]	(2M-23	1239-43			8-1 Prov.								1				ΛVm=
Sampling	Time	0	3.4	7.20	47:01	(3:48	Ī		23 4H					20,9												
Traverse	Number	0		~	~	7	V	gae P		6	es	T	r	9		C	6~	N	9	,	~	~		72	۰.	
			•			•		port change		-			•				· <u>-</u>		•			-	·	•	·	·

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Front Half Acetone Container No. NA Level Marked Sealed Filter Container No. NA Sealed Description of Filter Container No. 2 -	Comment	ecovery Person	29 29	B	salance No	7W C. co-
Container No. NA Sealed Description of Filter Clear Samples Stored and Locked Back Half/Moisture Container No. 2 - Isri ZND Erghs, 3 kl English Liquid Level Marked Sealed Imp. No. Contents Initial Vol Weight (grams) Imp. No. Contents (ml) Initial Final Net 1 6 N N OH 100 779.5 781.4 1.9 2 6 N N OH 100 769.8 773.5 3.7 3 6 N N OH 100 804.6 805.7 1,	Acatona		Liquid Level Marked	Sealed	•	
Samples Stored and Locked Back Half/Moisture Container No. 2 - Isri ZND F-pis-s, 3 kD Fmpis-s Liquid Level Marked Sealed Imp. No. Contents Initial Vol (ml) Weight (grams) Imp. No. Contents (ml) Initial Final Net 1 6N NaOH 100 779.5 781.4 1.9 2 6N NaOH 100 769.8 779.5 3.7 3 6N NaOH 100 804.6 805.7		No. NA		Sealed		
Samples Stored and Locked Back Half/Moisture Container No. 2 - Isri ZND From 3 KD From 3 KD From 3 Liquid Level Marked Sealed Imp. No. Contents Initial Vol Initial Final Net 1 6N NaOH 100 779.5 781.4 1.9 2 6N NaOH 100 769.8 779.5 3.7 3 6N NaOH 100 804.6 805.7 1.1	Description	on of Filter	clean			
Back Half/Moisture Container No. 2 - Isri ZND Enphysos, 3 kD Enphy						
Imp. No. Contents (ml) Initial Final Net 1 6N NaOH 100 779.5 781.4 1.9 2 6N NaOH 100 769.8 773.5 3.7 3 6N NaOH 100 804.6 805.7 1.1	Liquid Le	vel Marked		Sealed _		
2 6N NOOH 100 769.8 773.5 2.7 3 6N NOOH 100 804.6 805.7 1,1	Imp. No.	Contents		Initial	Final	
3 6N NOOH 100 804.6 805.7 1,1				· · · · · · · · · · · · · · · · · · ·		
10/4 1-2 1 1 1/1	2. •		I I			1 4
				1		i
871.0	3	1 \ (')	250		1 0 8 / 2 3	7.7
	3 4	- S C1	1			}
Total (3, 4	3 4 5	3 4		180		
· · · · · · · · · · · · · · · · · · ·	3 4					13,4

1 Operator: Ps: -1.8 O₂: αξη Sample Type: Of 24

Pitot#: 13-2 Probe Length/Type: 3.6L Stack Diameter: 35.5" CO2: CEM

Meter Box #: $\frac{5}{5}$ Y: $\frac{0.443}{000}$ AH@: $\frac{1.926}{1.000}$ Post-Test Leak Rate: $\frac{000}{1.000}$ cfm @ $\frac{9}{0.00}$ in.Hg. Thermocouple #: 13-2 Assumed Bws: 26 Filter #: QZ-447 Post-Test Leak Check: Pitot: __ Nozzle ID: 0.45

	H 82	79 4		7				~ 0 0																
		79																						
	4/4				_ ~	~ ~	~ ~ ~		2 - 2 - 2 - 2															
	361 61	09 198	1																					
	शम		361																					
	1 (2)) 																					
Desired Act	H.9 4.9		4.8																					
	3.4																							
739,352	410 000	・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	743,255	743.255 743.255 747.738	743,255 747.736 751.929	747.73	743,255 747.736 751.929 755,925 796.878																	
352	1_							147.46 147.46 152.56 159.43 159.43 159.43 157.169 157.75	1442-46 1442-46 1505-09 1505-09 1540-43 1557-1601	142.36 1505.29 1505.29 150-13 157-1601	142.36 1505.05 1505.05 150-43 1557-1601	145.26 140.46 1505.26 150-43 157-1601	140.26 1505.06 1505.06 150-43 1557-1601	142.36 152.36 150-13 150-13 157-1601	140-46 150-43 150-43 150-43 157-1601	142.36 142.36 150.43 150.43 150.43 150.43 157-1601	140.76 1 150.75 1 150	142.36 1505.26 1505.26 150-13 157-1601	142.36 140.46 150.736 150-43 157-1601	140.26 150.43 150.43 150.43 150.43 150.43 150.43 150.43 150.43	140.26 150.70 150.70 150.40 15	140.46 150.43 150.43 150.43 150.43 150.43 150.43	140.26 150.73 15	140.26 1505-04 150-43 150-43 157-1601
0	,,,	76.7	5.26	6.35	5:26 6:95 9:47	3:26 6:35 9:47 (3:50	3:36 6:35 7:30 13:30 16:11																	
C) -		- 4	-17~	-42	-427	- N T N 2																	

 $\Delta V_{\text{III}} = 32.027 \sqrt{\Delta p} = 1.3037 \Delta \overline{H} = 4.74 \overline{Ts} = 118$

5p = 3,2625

Sample Recovery Data-M5.doc

Front Half Acetone Container No. MA Level Marked Sealed Filter Container No. Quartz Sealed Description of Filter Clean Samples Stored and Locked Back Half/Moisture Container No. A Isri Z ND Imp. No. Contents Initial Vol Weight (grams) Imp. No. Contents Initial Vol Tybe. O 798.7 2-7
Container No.
Samples Stored and Locked Back Half/Moisture Container No. 2 Isri 2 ND Imp.,, 3pd I Liquid Level Marked Sealed Imp. No. Contents Initial Vol Weight (grams) [ml] Initial Final Net
Back Half/Moisture Container No.
Back Half/Moisture Container No.
mup. No. Contents (ml) Initial Final Net
1 6N NOU 100 796.0 798.7 2.7
2 6NNaOH 100 740.8 743-0 22
3 6NNaOH 100 800.4 500,7 0.3
4 59 250 9091 915-0 5-9
5
6 ·
Total

FIELD DATA SHEET Sample Type: 41 Middletun Sampling Location: P Buyhouse

Plant:

\$. \$

Pbar: Run Number: P-HUN-3 Date: 8-24-16
Pretest Leak Rate: 301 cfm @ 9 in.Hg.
Pretest Leak Check: Pitot: 1 Orsat: -

CO₂: Char O₂: Clar Probe Length/Type: 3'64 Pitot#: Stack Diameter: 35.5" K: 66

Post-Test Leak Rate: , 202 cfm @ 8 in.Hg.
Post-Test Leak Check: Pitot: , Orest. Thermocouple #: Nozzle ID: 1/56 Thermoce Assumed Bws: 2.5 Filter #: 0

г			/ccc								ere i									.,	 				7	<u>. </u>
	Pump	(in. Hg)				0	*	/	1	\				1	-	,						and the state of t	1777	***************************************	>	
	Dry Gas Meter Temp. Tm	Outlet		7	7	75	75	2/	7	11	7,7	77	78	R	79	79	-									
	Dry Gas M	Inlet		72	K	75	76	77	78	78	77	38	100	K	79	Z										4/_ =
	Aux.	Temp.		1/1	,																	:				Tm =
	Imminaer	Temp. TF		65	65	6.5	19.	S	60	62	67	63	20	19	2	00										
	Temperature EF	Filter		19C	Ris	265	59E	365	1970	365	200	245	364	264	296	764										
	Temper	Probe		59C	365	366	36.B	266	265	266	590	59E	Se Common of the	263	256	259										
T T T T T T T T T T T T T T T T T T T	Stack	(sr) dwer		80	96	103	100	110	113	105	106	108	112	113	1.15	117						-				901
	Ħ	Actual		2.2	1.9	1.7	1.9	1.9	1.9	[]	1.6	2.0	6.7	2.1	<i>⊙</i>	9			i i	-						1.90 Ts=
	Ø	Desired		2,2	2,	1.7	1.4	1.4	4	1.7	1.6	2.0	61	2.1	9.0	6					-					$=HV$ q_1
	Velocity	Head		3.	3.0	2.7	3.0	3.0	3,1	9.7	5.6	3.3	3.0	T.	3.3	3. ($\sqrt{\Delta p} = 1.7435$
	Gas Meter	Keading	167.757	770.751	773, 505	775.715	778.234	780.54H	782.961	785, 255	187.630	740. (22	712.735	745.370	748.102	800, 867									i I	33.110
	Close		1037-	· I	1040-040	1054 - 105g		134- 451	139-1143	1158-1261	121-120 787.630	136-1240 7			(33-13%	1380-0581		27.02								$\Delta V_{\rm m} = 1$
	Sampling	Time	\Diamond	3:39		4:17	35.C)	6113		23:17		30.13	33:43	37:15	hh:oh	91:16		14.27								
	Traverse	Number	O)	C	~	-37-	5	و	,		en	, T.S.	S	-9	pg. supp	(A	m	u,	9	 ٢,	M))	5	9	

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Sample Recovery Data-I-15, doc

	Commone	0.) M	1 201 - M		Balance IVO.	7 C-com	_
	Front Half Acetone Container	No. MA	Liquid Level Marked	Sealed		·	-
	Filter Container	No	M	Sealed			
	Description	n of Filter	C	ean			
	Samples S	tored and Locke	ed				
	Back Half/ Container	Moisture No	1575 21	10 Inpers	10. 1 3 R	D Inpiny a	
٠.	Liquid Lev	vel Marked					_
[Initial Vol	Sealed _			_
	Imp. No.	Contents	Initial Vol (ml)	Sealed	Weight (gr	ams) Net	
	Imp. No.	Contents GNAOH	Initial Vol (ml)	Sealed	Weight (gr Final	ams) Net 4.5	
	Imp. No.	Contents GNNAOH GN NAOH	Initial Vol (ml)	Sealed	Weight (gr Final 781.5 779.8	ams) Net 4.5	
	Imp. No.	Contents GNNAOH GNNAOH GNNAOH	Initial Vol (ml) (vo to v)	Sealed _ Initial 777.0 775.6 797.0	Weight (gr Final 781.5 779.8 794.2	ams) Net 4.5 4.2 -2.8	
	Imp. No. 1 2 3	Contents GNNAOH GN NAOH	Initial Vol (ml)	Sealed	Weight (gr Final 781.5 779.8	ams) Net 4.5	
	Imp. No. 1 2 3 4	Contents GNNAOH GNNAOH GNNAOH	Initial Vol (ml) (vo to v)	Sealed _ Initial 777.0 775.6 797.0	Weight (gr Final 781.5 779.8 794.2	ams) Net 4.5 4.2 -2.8	
	Imp. No. 1 2 3 4 5	Contents GNNAOH GNNAOH GNNAOH	Initial Vol (ml) (vo to v)	Sealed _ Initial 777.0 775.6 797.0	Weight (gr Final 781.5 779.8 794.2	ams) Net 4.5 4.2 -2.8	

A Middle town Sampling Location:

Plant:

Sample Type:

Run Number: P-HW -4 Date: 8-25-16 Pretest Leak Rate: The cfm of the in.Hg. Pretest Leak Check: Pitot: Orsat: Baghous

30.30 Ps: -1.1

CO₂: O₂: Probe Length/Type: 3'6c Pitot#: 73-3 Stack Diameter: 35.5" K: .655

AH@: 1.40 @ 8 in.Hg. Orsat: Nozzle ID: 156 Thermocouple #: Filter #: Meter Box #: S Y: Add 3 Leak Rate: 00/ cfm Dost-Test Leak Check: Pitot: Assumed Bws: 1.5

Pump Vacuum	(in. Hg)		0	0	0	0	0	O	0	o	0	0	0	0	0										2	150=99.6
eter Temp. n	Outlet		28	78	28	28	78	79	79	79	80	0 8	8	18	22			٠		ï						<u>—a.a</u>
Dry Gas Meter Temp. Tm	Inlet		197	78	28	28	138	79	79	80	8	Ŕ	18	22	83				,							 <u> </u>
Aux.	Temp.		N#	,		· · · · · · · · · · · · · · · · · · ·	om (er Janear				ari basan Pro-				Caralling		Maria Maria Maria Maria Maria Maria Maria Maria Maria Maria Maria Maria Maria Maria Maria Maria Maria Maria Ma	 · · · · · · · · · · · · · · · · · · ·	rususs.						£	$\overline{Tm} =$
Impinger	Temp. F		59	65	19	13	1.9	63	62	62	62	63	63	63	59		-								,	
Temperature EF	Filter		1221	252	366	369	205	del	265	260	365	502	190		12C											
Tempe	Probe		258	263	250	265	LAC	355	263	ar	270	376	Sec	200	286											
Stack	Temp (Ts)		63	F	109	011	120	125	130	132	135	130	(2)	130	/35						مر					121
VΗ	Actual		<u>ب</u>	5	0.0	6.4	81	4.	1.9	1.7	8.1	(-7	0	ē	8)				-				•	J	ż	$=\frac{37}{15}$
Δ.	Desired		<u></u>	9:	2.0	s.m.	87	6.3	<u> </u>	Ç	8	17	6.	2	8.1					•	•			·		=HVOLHL"
Velocity	Head .		3.3	2.0	33	. 6	3.0	20	2	2.0	3.0	53	77	22	3.0											$L' = \frac{uv}{v}$
Gas Meter	Reading	81.301	803,988	188,5%	809,433	811.948	BI4,372	816.798	S19,363	27.876	824.397	827.033	879 675	135-1738 832.243	934.810			-								33.509
Clock) 	.850)	1031	1042, 1046	į	751-6211	1134-1(37	1445 - 1KG	1159 - 1203	CEC1-8/01	15C1-360	1357-136	1316-179	1335-1338	1350 - 1381											ΛVm =
Sampling	Time	がよった。		671.0	5.0				Ī .			35.63	48:35													
Traverse		1		1			N	2	-	Co			\ \ \		_	4	(~	 2	, a		O	~	3	ۍ ا	ی	
L		1		1	.l	l	1	5 HA1	<u> </u>	<u> </u>	7 60 5	<u>.</u>	475.60	٥	1	I	I	 	<u> </u>	<u></u>	<u> </u>	1		<u>.1</u>	!	ı

Are Ol = 3.0536

Plant Ak Steel Myddletown Date 8/25/16 Sample Box No. Sample Location Ak Har Person Train Preparer 59 Sample Recovery Person CS Comments Other Method 29-4CN	Sample Head No. 17 Barometer No. 7wc. co
Front Half Acetone Liquid Container No. Level Marked	Sealed
Filter Container No.	Sealed
Description of Filter	
Samples Stored and Locked	
Back Half/Moisture Container No. (2) 15 7 2 2 2 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IMPULLERS
Liquid Level Marked	Sealed

P	H
13.	2

т . ът.	C	Initial Vol		Weight (gran	ns)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	6N Na OH	(W	796.0	809.8	13.8
2	60 N204	100	740.0	748.9	8.9
3	6N Na on	W	805.9	797.7	-8.2
4	56	250	915-0	9224	7.4
5					
6					
r	Total				21.9

	or total	- / -
Descriptio	n of Impinger Catch:	Cleer

Bws=3.0%

Ł	=	=[
£		⋛
(<u> </u>)
Į	Ť]

/ // " "		
Plant: AK Middletawal	Sample Type: HCN/07M 39 Operator:	Nozzle IE
Sampling Location: P. Baghorte 2	Pbar: ' Ps:	Assumed
Run Number: 1401-18 Date: 8-25-16	CO_2 : O_2 :	Meter Box
Pretest Leak Rate: . 00/cfm @10in.Hg.	Probe Length/Type: 3'64 Pitot#: 73-3	Post-Test
Pretest Leak Check: Pitot:	35.5"	Post-Test

7	Nozzle ID: 10 Thermocouple #: 70	Assumed Bws: Filter #:	Meter Box #; (1 Y; .943 AH(a); (.743	Post-Test Leak Rate: oct cfm @ 10 in.Hg.	Post-Test Leak Check: Pitot: Orsat:
	۱			ı (Xı	

		 					 	_	 	 		 							
Pump Vacuum	(in. Hg)		A villativit priss same avis sale.											-					
Dry Gas Meter Temp. Tm	Outlet				Š.		-												
Dry Gas M	Inlet												•						
Aux	Temp.																		\overline{Tm}
Impinger	Temp. T												·					2.0.0	
Temperature EF	Filter																		
	Probe									·	 								1
Stack	Temp (Ts)												:		٦				il I
J	Actual															•			$\overline{Ts} =$
ΔE	Desired								-					•					=HV
Velocity	Head					THE PARTY AND TH													$=d\nabla V$
Gas Meter	Reading			 							,								
Clock																			$\Delta V_{\rm IR} = $
Sampling	Time																		
Traverse	Number																110,000		

	Plant A V	Steel M	rddletown	-	Run No. P	- HCN - FB
	Date 8/ /	16	Sample Box No Sure Bach	11~	Job No. 5	2074.0172
	Sample Loca	ation PRE	SURE BAGHL	DUSE	Filter No	Quarte
	Train Prepar	er DA	CJ	Sample	Head No	/2
	Sample Reco	overy Person _	CJ	Bar Bar	ometer No	TVC.com
	Comments_	077	19- HCN	В	alance No	2
	Front Half Acetone		Liquid	Cooled		
	Container N	0.	Level Marked	Seated		
	Filter					
		O.	•	Sealed		
	Description	of Filter				
	Samples Sto	ored and Locke	:d	<u> </u>		
	Back Half/A	Moisture	200 IMPINGER	1 36		
	Container N	10. [3° €	200 IMPINGER	/ 31-0	IMPINGERC	
	Tionid Leve	el Marked	1/	, Sealed		
	inquia 1000	· ·				,
			Initial Vol		Weight (gr	ams)
pH	Imp. No.	Contents	(m1)	Initial	Final	Net
13.76	1	6N Naun	(0)	780.1	780.0	-0.1
13 85		GN Paux	(1)	1781.7	781.7	
•	3.		(00	804.8	1	0.0
13.78	,	6N NaUH	32)	1	804.7	-0.1
	5	<u>S</u> 6-	330	887.3	887.8	0.3
	6 .	-				<u> </u>
	T	otal				0.1 V
•		7.T . ~	. 1	al		
	Description	of Impinger C	atch:	Creer_		

Plant:

HCN o Tail 29 FIELD DATA SHEET

Sample Type: (Jan 19 Operator: At. Pbar: 30/20 Ps. -6.75" Sampling Location: Column Star

Pretest Leak Rate: Q. Q. Crfm (@ |Vin'.Hg. Pretest Leak Check: Pitot: 1/4 Orsat: ~

Run Number: C-of 18-1 Date: 9

Pitot#: 05-2 CO₂: $\overrightarrow{\textbf{3}}$ O₂: Probe Length/Type: $\overrightarrow{\textbf{6}}$ Stack Diameter: $/\cancel{\textbf{6}}$ $\overrightarrow{\textbf{8}}$

Assumed Bws: 10 Filter #: Q2 447

Meter Box #: 3 Y: 1 w 1 AH@: 1 &

Post-Test Leak Rate: 0 w 1 cfm @ 1 in.Hg.

Post-Test Leak Check: Pitot: 1 Orsat: Nozzle ID: $\frac{2.50}{0.50}$ Thermocouple #: $\frac{7}{0.50}$ A senimed Bws: $\frac{7}{0.5}$ Filter #: $\frac{7}{0.5}$

Sampling	Clock Time	Gas Meter Reading	Velocity Head	HV		Stack Temp (Ts)	Temperature EF	ture EF	Impinger	Aux.	Dry Gas M	Dry Gas Meter Temp. Tm	Pump Vacuum
	14/0	Out •		Desired	Actual		Probe	Filter	Temp. ºF	Temp.	Inlet	Outlet	(in. Hg)
	1400		200		, , , ,	29/	200	75.0		_	76	0	
	אטגי	200	7 4	4	4	0.00	2 6	253	200		92	100	-
	12.27	922.0	70.0	Q	5 %	270	245	152	0		12	20	-
1	G05%	9236	40.0	6.7	7.8	260	240	152	57		83	26	-
	2051	925.3	6.035	9.	7.6	260	248	251	23		28	20	,
i	5051	927.210	0,000	<i>6.</i> 3	87)	022	249	250	25		35	25	
	L#5)	929.0	0.040	% /	8.7	482	252	152	50		29	28	,
l	1500	930.85	0,00	87	87	387	246	052	1		25	25	
	1572	932.7	0,040	87	87	062	346	1.52	60		92	26	
T	72.50	١,	0.040	9 /	87	762	252	250	85		96	8	7
	1,27	•	0.035	57	1.5	282	242	250	59		6	22	
i	1530	838.180	0500	2.2	2.2	762	250	250	1		<i>ر</i> ح	3 %	
	(5.38	1.046	0,000	87	37	300	249	642	es.		80	26	
	(53)	t1)h6	0.035	57	1.5	708	1246	249	63		%	55	
	0351	4546	54000	5%	1.5	<i>०</i> ०६	544	642	63		65	25	
	745	945.2	0,000	8/	87	62	242	250	29		26,	25	
	SH51	944	040 ×0	%	8.7	362	246	251	62		26	75	
	[64J	948.9	0.040	87	48	295	256	250	62	_	23	28	,
15.54	1550	015.039		57	1.5	782	848	250	29		86	25	(
i								ı	٠,				
52.5					:				•				
0.00						***							
	$\Delta Vm = 1$		$34.35\sqrt{0p} = 0.1918 \ \Delta H = 0.1918$	$=H\Delta$	1,74 Ts=	882 =				$\overline{Tm} =$	93.	ر <i>ہ</i> '	1502 96 8
			0.00	<u>.</u>									E

Plant Al	Stel Sa	mple Box No.	lifam	Run No. Sos	HCN-1 574.0172 2447	<u>.</u>
Sample Loc	ation	tan stan	Sample :	Head No.	71-2	_
Train Prepa	rer <u>J</u> covery Person_	Con (Banipie :		7 &	-
Comments	H ()		Ba			
Comments	1 CIO HIM					_
Front Half						
	IIA I	iquid				
Container N	10. N/A I	evel Marked	Sealed			<u></u>
Filter	r	1			and the second s	
Container N	To	4	Sealed			
	emit.					•
Description	of Filter					
Samples St	ored and Locked					- .
D1- TT-16/1	Maiatana					
Container N	Vioisture	200 1-01	xc=xi/3	PA IMPI	NGER	
Comamer	NO	179.0	1 4 C (C) 	. 5 // - (D- 00	_
	el Marked					
Diquit nov	or market					
		Initial Vol		Weight (gran	ns)	
Imp. No.	Contents	(ml)	Initial	Final	Net	
1	(11 11 - 614	100	7466	776.7	30,1	1/3,3
2	6 N NaOH	100	1			
			791.3	802.8	11.5	12.8
3	V	<u> </u>	796.6	808.7	ાંતુ.ો	13.0
4	54	250	922.4	929.9),5	
5						
6						
	Total				6/2	
Description	of Impinger Ca	tch: (st im	o rellowish	1, 2,3 are	clear Bu	/
TO COULT PURCE			0	- · · · · · · · · · · · · · · · · · · ·	<u> </u>	12191.
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75-7	7 7	1840	in.Hg.	sat:	Pump	y acutall
3 Thermocounle #:	Assumed Bws: 10 Filter #: Wheel Q2	Y: 1,009 AH(Q): 1,840	Post-Test Leak Rate: cfm @ 10 in. Hg.	Post-Test Leak Check: Pitot: Ve Orsat:	Dry Gas Meter Temp.	*
B. 0.48	ed Bws: /	Meter Box #: 7	st Leak Re	st Leak Cl	Aux.	£
Nozzle	Assume	Meter E	Post-Te	Post-Te	Imminoer	L L
	88		75.2	1.66	Temperature EF	TO
Operator:	86.0-	CEM :	5/61 Pitot#: 75.2	" K: 5		Lemp (1s)
ype: HCN	Pbar: 30.00 Ps	OEM.	Probe Length/Type:	Stack Diameter: 168	HΔ	Decined Approx
Sample Type:	Pb	S	Pro	Sta	Velocity	Head
Middletown	Combustion Stack	Run Number: CS-1KN-2 Date: 48-16	Pretest Leak Rate: 0.321 cfm @ 15 in.Hg.	1 Orsat: 1	Gas Meter	Keading
8		_ γ-γ5	32/ cfm	Pitot:	Clock Time	
ナ	sampling Location:	ber: 65-11	ak Rate: 0.	retest Leak Check: Pitot:	Sampling	TIME
Plant:	Sampling	Run Num	Pretest Le	Pretest Le	Traverse Point	Number

																												- [[
at:	Pump	vacuum (in. Hg)		K	14	~	7	4	-	_						.1_						-			P			
Ve Orsat:	eter Tem	Outlet		73	73	7.7	7	K	25	52	7%	16	2	7	2	28	2%	K	R	80	80	8	Ø(/8	83	E	83	
Post-Test Leak Check: Pitot:	Dry Gas N	Inlet		Ę	X	7,	77	K	8	8	×	8	\$	82	33	æ	88	38	98	87	87	22	88	88	<i>\$</i> ¢	. 69	24	
st Leak C	Aux.	Temp.		#12															10 M									
Post-Te	Impinger	Temp. T		153	£9	25	\$3	5	43	24	9	Ü	<u></u>	Ĝĺ	3	39	35	52	3	55	Ŋ	50	S.	50	\ \ \	16	B	
	Temperature EF	Filter		260	255	253	353	252	250	250	250	250	250	250	25	250	290	250	249	251	233	250	250	250	250	250	321	
51.66	Temper	Probe		25(245	248	250	250	751	253	253	251	250	250	34	250	251	251	250	330	250	251	249	249	250	292	249	
К:	Stack	Temp (Is)		310	337	303	299	308	302	384	390	392	313	3%	386	367	365	367	368	370	372	373	374	37%	376	371	371	
reter: /68"	ΔН	Actual		25	22	2.5	25	<u>a.</u>	ī	ü	83.0	9.68	83.6	0.58	258	<u>7.</u>	1.0	۵(o)	5	2)	œ.)	0	0.1	9	29.0	2.67	
Stack Diamet	Δ	Desired		25	2.2	2.5	2.5	7.	<u> </u>	.3	2,98	9.48	2.68	83.0	23.0	7	0.	0.1	(,0	ò	6	(,0	ċ	0.	0	0.67	29.0	
Sta	Velocity	Head		70,0	90°0	20.0	0,07	несо	HO.0	0.04	6.03	600	0.93	9.00 8.00	203	JO.04	0.03	600	50.0	0,03	500	0.03	0,03	0,03	9.03	20.0	200	
VE Orsat:	Gas Meter	Keading	107.444	196	2112	1(3.6	115.7	117.3	18.8	[20.3	121.6	(23.0	24.3	125.6	126.9	128.5	1299	131.2	132.6	133.9	135.3	(36.7	138,0	139.4	140.7	五, ノ	143.426	
- 1	Clock		300	000	1013	1015	8101	020	1923	0.29	(038	1030	1033	1035	1038	0401	042	1045	(o 43	1050	(253	1255	8501	061	1103	100 I	2011	
Pretest Leak Check: Pitot:	Sampling	ııme	0	2.5	N	75	0	12.5	ī	17.5	જ	27.6	35	37.5	30	32.5	36	37.5	9	(13.5	4	5.7.5	20	575	55	57.5	09	
Pretest Le	Traverse Point	Number	0		B	~	f ₃	5	ی	7	Δ.	~	٥		Q		a	C		2	ی		4	5	0)		6	

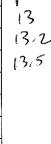
 $\Delta Vm = 34.981 \sqrt{\Delta p} = 0.1894 \Delta H = 1.27 Ts = 365$

90

 $\overline{Tm} =$

Plant Ax steel	Run No. <u></u>	-HCN-2
Date 9/6//6 Sample Box No.	Job No	50174-0172
Sample Location Combo, Non Stack	Filter No.	Quart
Train Preparer OJ/PK	Sample Head No.	6
Sample Recovery Person \iint	Barometer No.	TWE
Comments OTM 29	Sample Head No. Barometer No. Balance No.	2
Front Half Acetone Liquid Container No. M Level Marked Filter Container No.	Sealed	-
Description of Filter		
Samples Stored and Locked	-	
Back Half/Moisture Container No. 131 i 2ND Eup 1	yes BRD I	phy
Liquid Level Marked	Sealed	

T NT.	0-4-4-	Initial Vol		Weight (gran	ms)
Imp. No.	Contents	(ml).	Initial	Final	Net
1	6 NNaOH	100	739.3	816-3	77-0
2	6 N NO-04	100	799.8	872.9	23.
3	6N Na04	100	796.7	803-6	6-9
4	59	250	9298	976,3	6.5
5					
6		,			
	Γotal		The state of the s		113-5



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FIELD DATA SHEET

7	(g	1.8%	ejo i	Pump	(in. Hg)					(()	}					_							_	ļ					The Control of the Co	2 Y
15-15	12	↑ :@H∇	1 in.Hg. Orsat:	P																	<i>-</i>										The second secon	1
Thermoconnle #: 15-2	unterral	HV Jee		eter Temp.	Outlet		82	3 5	80	Š	32	32	83	83	83	83	8H	84	84	34	85	85	150	88	98	98	98	98	87	87	Note: The second	
	1 .	Y: 1.009	Post-Test Leak Rate: 2001 cfm @_ Post-Test Leak Check: Pitot: 1/t	Dry Gas Meter Temp. Tm	Inlet		83	(%)	23	3H	85	88	87	23	23	84	89	90	90	90	do	go	ن	42	હિ	62	40	42	92	43		98 =
. 0 H & P	Bws. 10	# M	Leak Rat Leak Che	Aux	Temp.		NIA	-1											·											-	The Address of the Address of the	$\overline{Tm} =$
Nozale ID	Assumed Bws: 10	Meter Box #:	Post-Test Post-Test	nbinger	Temp. °F		E	62	60	90	£_	23	19	61	9	79	63	63	63	63	h9	69	65	Нg	63	63	Ç4	H)	H#)	H 9.		
,		, —			Filter		253	254	254	251	(65	251	249	249	260		351	250	349	249	251	351	350	250		250	350	250	249	260		
0			1227	Temperature EF	Probe F		249	252 2	252	250 2	249 2	351 2	248 2		251 2	250 2	यम् ४	250	246	250	250	250	251 3	320	250 2	251 2	250 2	260 2	260 2	260 2	And the second s	
	M		ot#: Z		<u> </u>																			_								٥
Onerator:	-0.93	9	7	Stack	Temp (Ts)		373	378	377	378	370	376	378	380	334	386	368	390	8	393	314	397	317	367	36	367	36	370	372	373		= 380
	Ps		-		Actual		5	13	(.3	5.1	6/3	(,3	(2)	0	0.1	<u>0</u> .	9)	ó	0	0.C	99.0	0-1	0,1	0	0.69	690	9.0	è	0.	1.4		$1,02$ \overline{Ts}
ne: 07 4	30.00	CO2: <u>८</u> ट्म	Probe Length/Ty Stack Diameter:	ΑМ	Desired		73	1.3	1.3	1,3	1.3	5.7	1,3	1.0	0.)	1,0	o,	1.0	0	0.66	930	1.0	1.0	0,0	0.69	0.69	0.69	9.6૧	1.0	۲.۲		$2\sqrt{M} = $
Sample Tv	Comba Pbar:	CO ₂	Prol Stac	> -	Head		HG'0	40°0	40.0	40.0	40.0	0.04	h 0.6	500	500	0.03	0.03	0.03	500	2006	80.0	9.03	0.03	20.0	0,00	88	9.02	\$05	9.03	P0.04		= 0.1742
	-	9	<u>16</u> in.Hg. Orsat: /	Gas Meter	Reading	42.800	ביה.	146.9	147.5	149,0	150.5	52.0	153.5	154.8	156.2	157.5	158.8	169.2	<u>6</u> .7	162.6	638	169.1	166.5		169.4	170.6	(71.7	172.8	174.3	175.764		$= dV \sqrt{hgb}$
Mitaletol	Partners Stack	J-3 Date:	Scfm @ itot: /t			1155 1	11.57	1200	(202)	28	1207	1210	1212	1215	1217	1220	1222	1225	1227	1230	1232	1235	(237	1240	124D	1245	247	1250	1252	1265		$\overline{\mathcal{L}} = m\Lambda \nabla$
	ocation:	л: С5-ИСЛ	c Rate: ΟΩ c Check: Ρ	Sampling	Time	0	2.5	ľ	7.5	0	12.5	19	17.5	20	22.5	25	22.5	30	32.5	35	37.6	40	42.5	75		20	525	ž,	575	60	-	7
Plant.		Run Number: C5-4CN-3	Pretest Leak Rate: 0.222 cfin @ 15 in.Hg. Pretest Leak Check: Pitot: $\sqrt{1}$ Orsat:	Traverse Point	ı.	0		ý	6 √	5	r	<i>e</i> 0		7	Μ	<u>.</u>	5	9	_	К	w	T	r	9		7	2	_	a	ė.		

Ap = 0.0308

Date <u> </u>	<u>8 //6</u> cation_ (აონა	Mrddleton Sample Box No Show Stack	470-8	Job No. <u>5</u> Filter No.	- HCN - 3 W74.0172 Quartz G
Sample Red	covery Person_	DA	Bare	ometer No	6 W C. Ca- 2
Comments	07m29-	MCN	Ba	alance No	2
Front Half Acetone Container I	10. <u>NA</u>	Liquid Level Marked	Sealed		
Filter Container N	No	MA-	Sealed	-	
Description	of Filter				
Samples St	ored and Locke	d			
Back Half/I Container N	Moisture	tiZND Zw	ps; 3	nd Imp	
			•		-
T 3.7	G	Initial Vol		Weight (gra	ms)
Imp. No.	Contents		Initial	Final	,
1	e i Ni ni			Ciciro	

Imn No	Contents	Initial Vol		Weight (gra	ms)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	61 Na OH	$i\omega$	777.7	854.9	ファス
2	6N Na On	(W	772.0	792.5	20,5
3	KONNOH	(W	807.7	811.4	3,7
4	56-	250	916.2	921-7	5-5
5					
6	·				
	Γotal				106.9
Description	n of Impinger Ca	tch:	62	rellwish	1st Topps, -
			Bi	NS=13,50	9
				us = 13.50 $Pso = 102$	-8/2

Plant // S Date 9/8 Sample Lo Train Prepo Sample Re Comments	cation Covarer DA	Mrddletun Sample Box No Nostron Se DA Ton 29	Sinch Si	ample I Baro Bal	Run No Job No Filter No Head No meter No lance No	C - 1	1CN-F1 074-017 204-12 2 WC	<u>2</u>
Front Half Acetone Container		Liquid Level Marked	Sea	led				
Filter Container	No	MA	Sea	led	ton, many parts.			

		ed	Name and Property of the Parks					
Back Half/ Container	Moisture Nol	esri and	Tap	>	3KD:	Dap		
Liquid Lev	el Marked		Sea	led				
		Initial Vol			Weight (g	grams)		
Imp. No.	Contents	(ml)	Initia	al	Final		Net	P
1	6NNaUH	100	man from	79.8	779-6		J	
2	`(/W	791.		791.5		<i></i> }	
3	٧,	(IV)	7820		782-8		J	13
4	54	250	936.	` 1	9.35-8		5	
5						-		
6								
	Γotal						-1.2	
	of Impirer (•	<i>y</i> .	\				





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	73-1 ED	1(a): 1.783 8_in.Hg. Orsat:	Pump	(in. Hg)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.5	5,5	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.5	5,5	6.0	6.0	0.0	6.0	0.0	6.0
	Thermocouple #: 73 Filter #: UNTARED	7 1 1	ster Temp.	Outlet		63	63	63	64	65	63	67	69	70	14	73	73	73	44	hL	44	75	75	75	75	75	75	75	75	75
	1 .	~	Dry Gas Meter Temp. Tm	Inlet		63	63	63	65	66	67	89	70	7,1	72	73	74	74	44	44	75	75	75	75	75	75	75	75	75	75
(3	, /5 ws: ,	그목목	Aux.	Temp.		64	19	59	59	58	58	5/2	60	101	59	50	59	58	56	55	53	54	54	56	55	55	53	24	52	53
to 1 .p	Nozzle IE: • / Assumed Bws:	Meter Box #: Post-Test Leak Post-Test Leak	Impinger	Temp. F		65	00	57	58	59	60	57	57	28	56.	57	5.8	57	00	58	57	59	58	58	59	58	5.7	58	59	57
I fra	> > 		tture EF	Filter		365	259	259	360	360	253	258	255	198	257	364	265	260	260	257	261	256	256	258	264	260	259	262	259	361
A SHEE	<i>GD</i>	5 #: 73-1 6096	Temperature EF	Probe		262	258	259	258	260	253	258	259	257	259	261	259	262	258	257	252	252	257	254	260	259	261	257	262	262
FIELD DATA SHEET	perator:	20. 21. Pitot:		Temp (Ts)		95	66	106	0//	113	114	911	113	115	911	114	115	116	118	130	115	119	113	1115	411	8//	123	124	115	//3
FIE	re b Ps	O2: /pe: 3/ 35.5		Actual		1.8	87	1.7	1.6	9.1	1.7	1.7	1.7	1,7	1.7	8 /	1.7	87	97	1.6	1,6	1,7	8.7	∞ ′′	6.1	19	8 /	8 1	6.9	61
	VE/ 30.2		Hγ	Desired		1.8	81	1.7	1.6	1.6	1.7	1.7	1.7	1.7	1,7	8./	1.7	81	91	1.6	1.6	1.7	8'/	8.7	1.9	1.9	00	7.8	1,9	1,9
	Sample Type: Pbar:	CO ₂ : Probe Stack	1 2	Head		4	3,1	3.0	2.9	2.8	3.0	3.0	3.1	3.1	3.0	3.3	3.0	3.1	8.8	2.8	2.9	3.0	3,1	3.1	3.4	3.4	33	3,3	3,3	3.4
	UN #3	Date: 9-/2-/6 1 @ /@ in.Hg.	Gas Meter	Reading	358,286	360.643	363,119	365,476	367,847	3.70.194	372.582	374,841	377,476	379,943	382.363	384.941	387.317		392,138	394,518	96	399.355	401.855	404,429	407.016	409.623	413.181	5.0	417,702	420.315
	Middle town	L DH	Clock		1036	-	15.								1257-	13/6-	-		1439-			1524-	1542-	1559-	16/8-	1634-	1651-	1709-	1725-	1738-
	c Midd.	er: <i>P-Gas</i> k Rate:, <u>0</u> k Check:	Sampling		0	3:11	18:	12	1/2	16:20	1.45	33:00	l	l _	33:05		1		91:94	30		-	59:25	\mathcal{M}	66:16	04:69	73:04	76:55	30:16	83:35
BOM	Plant: AK Midd Sampling Location:	Run Number: P. Cach-1 Pretest Leak Rate:, <u>601</u> of Pretest Leak Check: Pitot:	Traverse	Number	S	1	2	(2)	7	10	9		0	~	.2	7.0	9		2	3	h	ۍ	-2		18	10	Ų	10	79	

 $\overline{Tm} =$

 $\overline{\Lambda}H =$

 $\Delta Vm = 62.024 \sqrt{\Delta p} = 1$

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3 43

	M - do! !	_ 8 @		\													•											
	#: 73-1 # ~ ~ ~ / H@: 7.78 \$ in.Hg. Orsat: NA	Pump Vacuum (in. Hg)		5,5	و و	9	0	e	9	C	O	O	e	V	V	Q	0	C.	e	B	Q	9	Q	ی	9	\$	Q	
	0 4<1 1 1 1	Dry Gas Meter Temp. Tm Inlet Outlet		70		63	69	08	89	080	67	99	99	<u>و</u> و_	67	99	67	67	67	67	68 ^r	69	70	7	73	74	75	1
	Nozzle ID: $\frac{e_{7}/\sqrt{6}}{2}$ Thermocoupl Assumed Bws: $\frac{e_{3}}{2}$ Filter #: $\frac{e_{3}}{2}$ Meter Box #: $\frac{e_{3}}{2}$ Y: $\frac{e_{7}/6}{2}$ Post-Test Leak Rate: $\frac{e_{3}}{2}$ ofm @ Post-Test Leak Check: Pitot: $\frac{e_{3}}{2}$	Dry Gas Met		00,	200	68	o e	67	67	67	99	99	99	و	99	99	99	67	جل و	<i>چ</i>	69	7.	72	73	74	75/	76	= u
E for	Nozzle ID: %'/5 Assumed Bws:	Aux. Temp.			777	44	رخ م	th.	7 (43	પં3	43	45	4	7	ご	5	23	54	ħς	77	5,	25	56	57	12	15	\overline{Tm}
Pags 3	Nozzle ID: Assumed B: Meter Box # Post-Test L. Post-Test L.	Impinger Temp. ºF		469	- e	25	2	53	56	53	58	53	53	12/2	55	2	27	28	59	20	5,9	59	60	Š	09	20	0	
	,	thre EF Filter		260	76 c	096	358	259	257	286	258	258	260	263	262	260	258	25G	251	257	260	260	259	194	25%	256	256	ŀ
A SHEE	6 B 53- 0,60%	Temperature EF Probe Filter		262	260	उ ५०	176	240	236	341	34.5 1	234	18e	243	843	196	170	33 4	238	235	239	233	231	238	237	23.7	245	1
FIELD DATA SHEET)perator: _ _ _ _ _ _ _ _ _ _	Stack Temp (Ts)		000	<u> </u>	9	7		93	*1	0	5	103	76	<u>}</u>	go	60	6	46	2	96	100	ho!	/ いり	0	9.	93	-
FIR		! ∢		0	6.18	1.8	1,8	3-1	5	ر د ک	٥	<u>لم</u>	18	1-0	2,-	6.9	1,9	\ 0_	67	5	70	8,	40	4	<u>, 86</u>	1.8	[8	\overline{Ts}
	Sample Type: (Alb 42/429) Pbar: 30.20 I CO ₂ : 0.5 (Probe Length/Type: 25 Stack Diameter: 35	AH Desired			بل عبر	٦	<u>ئ</u>	١٠	5	1.9	9,	18	1.8	47	1.9	٦.	ار م	٦, ٩	57	۵,	5	<u>_</u> , &	ela L	4	حد	الح	١, ۶	$\overline{\Lambda H} =$
	Sample Type Pbar: L CO ₂ : Probe Stack	Velocity Head		3,3	3. (3. j	3. i	3, (3.2	3,3	3.2	3-1	3, 1	3. 1	3.2	3.2	3.2	32	3,2	3,2	3.2	3 . [3,1	3.	3.1	3.1	3.1	$=d\nabla \nabla$
	Extense #3 tte: 9/12-13/16 9 7 in.Hg. Orsat: NP	Gas Meter Reading	420.417	423. Br.	486 5.045		433, 224	35.833	38.34	441.131	443.640	898 91	148.809	51.352	3.896	08 5 ,554	459.085	461.637	464.185	466.738	169.32c	471.870	00.15.4Lh	85 P. 91 M	479.432	481.930	484.485	
	1 12 a	V .			3"	25.58 47		7			h Thoo o	PH 15.3	-		45-49 45	4 5520				小 さ				45/24 B	1 415,805		535-358 4	$\Delta Vm = C4, 068$
	Madketon ocation: 6,34m, r: f-1848-1 Di Rate: 312 cfm (Check: Pitot:	Sampling Time	After Leaveneth		93:00	96:45	100:05	103:30 23		140:30 60	10000	0000	311.00 011	134:15 Di	37:30 01	36.00.18	1	137:30 31	140:45 33	144:00 3.	147:15 33	150:30 41	(53:45 -3	+ 00:15	160:15 50	163.30 52	166:45 5	∇
M M	Plant: At Moddle to Sampling Location: 6,3 Location Pretest Leak Rate: 30 to of Pretest Leak Check: Pitot:	Traverse S Point Number			7 7	3	9		7	3 16	1 /7	タ	9		7	}	3	c		\	2	3	'	2	۵		7	

EQM	FIELD DATA SHEET Δ/\mathcal{E}	D. L
Plant: AK Middletown	00	Nozzle
Sampling Location: P. Brahouse #3	Pbar: 30.15 Ps: -1.9	Assum
Run Number: P.carb - 1 "Date: 9-13-16	CO2: 0.5 02: 20.5	Meter
Pretest Leak Rate:, 00/ cfm @ 8 in.Hg.	Probe Length/Type: 3'6/ Pitot#: 73-1	
Pretest Leak Check: Pitot: Orsat:	Stack Diameter: 35.5 " K: 0.6096	Post-T
	AU CO. 13	- CD

## Pbar: 3. 6.02: 8 in.Hg. Probe L. Stack D. Sta	Ps: Actual Te 35.5% 1.8 1.	Ps: -1.9 O ₂ : 2c.5 3'6/ Pitot#: 73-1 Stack Temper Stack Temper 107 356 113 366 113 3663	### ature EF ###################################	Assumed B. Meter Boxs, Post-Test Empinger Temp. 97 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1 Bws: 1.8 x #: /3 £ Leak Rat £ Leak Che £ Leak Che 5 4 5 4 7 4 7 4	Assumed Bws: 18 Filter #: 4n4a Meter Box #: 13 Y: 0.989 AH Post-Test Leak Rate: 001 cfm @ 60 Post-Test Leak Check: Pitot: 24 Cfm @ 60 Emp. 9F Temp. Inlet Outlet 60 54 69 69 50 71 70 58 50 71 70 58 50 72 71 58 50 73 71 58 50 73 73 58 50 73 73	Assumed Bws: i.8 Filter #: Untared Meter Box #: /3 Y: 0.982 AH@: i.783 Post-Test Leak Rate: ovi cfm @ (o in.Hg. Post-Test Leak Check: Pitot: 1.2 Orsat: — Dry Gas Meter Temp. Pump Impinger Remp. ºF Temp. Inlet Outlet (in. Hg) 64 54 67 6.0 58 52 68 67 6.0 59 50 71 70 6.0 59 50 73 71 6.0 59 50 73 71 6.0 59 50 73 71 6.0 59 50 73 71 6.0 59 50 73 71 6.0 50 73 72 6.0 50 73 73 6.0	1.783 in.Hg. Pump Vacuum (in. Hg) 6.0 6.0 6.0 6.0 6.0
^J Date: 9-/3-/6 CO ₂ : m @ & in.Hg. Probe L Corsat: — Stack D Gas Meter Velocity Reading Head Des 484,681 MMMM 497,130 3,3 1, 494,514 3,1 1, 494,514 3,1 1, 494,514 3,1 1, 501,804 3-3 1, 501,804 3-3 1, 501,804 3-3 1,	3.5. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	20.5 Fitot#: 73-1 K: 0.6096 tack Temper 13 360 13 360 18 360 18 360 18 360	3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Meter Be Post-Tes Post-Tes Post-Tes Post-Tes S S S S S S S S S S S S S S S S S S S	Aux. Temp. 750 550 444 444 444 444 444 444 444 444 4	V: 0.4 cf cf csck: Pitot: Dry Gas Me Th Inlet 64 67 73 73 73	189 AH (2): Tim (2) (6) Ster Temp. Outlet 64 70 71 73	in.Hg. Pump Vacuum (in. Hg) 6.0 6.0 6.0 6.0 6.0 6.0
8 m.Hg. Orsat: — Gas Meter Velocity Reading Head 84, 681 77, 130 73, 3 77, 056 74, 340 77, 056 77, 056 77, 056 77, 056 77, 056 77, 056 77, 056 77, 056 77, 056 77, 056 77, 056 78, 33, 3 78, 33, 3 78, 33, 3 78, 33, 3 78, 33, 3 78, 33, 3 78, 33, 3 78, 33, 3		Trooff: (57) K: 0.6096 Track Temper Track	322 20 20 2	Post-1es Post-Tes Post-Tes Cotton Post-Tes Cotton Post-Tes S S S S S S S S S S S S S S S S S S S	Aux. Temp. 59 50 50 44 44	Esck: Pitot: Dry Gas Me Inlet 6 9 77 73 73 73	10 outlet	at: Fump Vacuum (in. Hg) 6.0 6.0 6.0 6.0 6.0
Clock Gas Meter Velocity Time Reading Head 1034 484 681 [[[]] 1039 487,130 3,3 1034 487,048 3,2 1055 497,048 3,2 1156 494,514 3,1 1156 497,056 3,1 1175 199,804 3.3 1175 501,804 3.3	AH Actual 1, 8 1, 7 1, 8 1, 8 1, 8 1, 8 1, 8	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 2 2 2 2 2	Impinger Temp. °P 6 4 6 0 5 8 5 7 5 7 5 7 5 8 5 7 5 8	Aux. Temp. 5.4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Dry Gas Me Th Inlet 6 4 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	be 4 6 4 7 6 7 7 3 7 3 7 3 7 3	Pump Vacuum (in. Hg) (in. Hg) (in. Hg) (6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0
1036 1039 1039 1039 1039 1039 1035	Actual 1, 8 1, 8 1, 7 1, 7 1, 8 1, 8 1, 8 1, 9 1, 9 1, 9 1, 9 1, 9 1, 9 1, 9 1, 9			5.72 5.73 5.73 5.73 5.73 5.73 5.73 5.73 5.73	50 27 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	133 7 1 68 64 133 133 133 133 133 133 133 133 133 13	00utlet 64 70 73 73 73	(m.Hg)
1039 487,130 3,3 1034 487,130 3,3 1052 493,028 3,2 1116 494,514 3,1 1135 497,056 3,1 1147 494,390 3,3 1158 504,237 3.3	\$ 8 8 1 1 8 8 8 9 1 1 1 1 1 1 1 1 1 1 1 1		2565 2565 2565 2565 2565 257 257	5.8 5.7 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8	55 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	73 73 73 73 73 73 73 73 73 73 73 73 73 7	733 7 70 626	000000000000000000000000000000000000000
10.22 489, 604 3,2 1103 492,028 3,2 1116 494,514 3,1 1136 497,056 3,1 1144 494,390 3,3 1147 499,399 3,3 1277 504,337 3.3	28 28 12 12 13 13 13 13 13 13 13 13 13 13 13 13 13		256 200 200 200 200 200 200 200 200 200 20	558	500 27 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	73 77 6687	33 30 62 30 30 30 30 30 30 30 30 30 30 30 30 30	0.0000000000000000000000000000000000000
1105- 492,028 3,2 1 1116- 494,514 3.1 1133- 497,056 3.1 11417- 499,390 3.3 1150- 501,804 3.3 1250- 504,337 3.3	28 27 7 7 8 8 9 7 7 7 8 8 9 7 7 7 8 8 9 7 7 7 8 8 9 7 7 7 8 9 9 7 7 7 8 9 9 9 9		250 23 20 20 20 20 20 20 20 20 20 20 20 20 20	5.8	52 50 52 74 8 50 74 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	77 77 73 73 73 73 73 73 73 73 73 73 73 7	73 73 73 73	000000000000000000000000000000000000000
1116- 494,514 3.1 1. 1138- 497,056 3.1 1. 1141-4 494,390 3.3 1. 1158- 501,804 3.3 1. 12170 504,337 3.3 1.	7,7,8,8,9,1		25.2	5,000	50 50 149 149	73 73 73 73 73	70 70 73 73	0.0000000000000000000000000000000000000
7/335 497,056 3.1 1, 1/4/4 494,390 3.3 1, 1/307 501,804 3.3 1, 1/307 504,337 3.3 1,	7, 8, 7, 7, 8, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7,		25.9	55 50 50 50 50 50 50 50 50 50 50 50 50 5	1490	72 73 73 73 73	70 71 73 73 73	0.0
11414 494,390 3,3 1, 1308 501,804 3.3 1, 1317 504,337 3,3 1,	8.7		367	57 50	120	73	73	0.0
1158-501,804 3.3 1.	1,9		263	5.2	74	73	73	0.0
12370 504,237 3.3 1,	1,9		257	200	14	73	73	0.0
						-		
					-			
				_	-			
:								

4 Not Am = 145.683, 12p = 1,7691 AF	$\overline{\Delta H} = 1,79$ $\overline{TS} = 1$	901			\overline{Tm}	$\overline{Tm} = 70$		`
OIELE : JOY								<i>∑</i>

Total	AK	Middh	efam	Run No. <i>P</i> - (7112 1·
Plant	-9/2/11	ample Box No.	-6	Kun No. /	7KD-1
Sample Loc	1/3/16 3	ampie Box No.	2.4/2	Filter No. 1/1	74.0172 ul Rvertz B
Train Prepa	TET A.	- Bughase To Pu/BF	. Sample I	Tead No	L. Kvarge
Sample Rec	covery Person	pulBF	Ваго	meter No. \	
Comments	CARB	, , ,	Ba	lance No.	
Front Half Acetone	.,.	Liquid Level Marked			
Filter Container N	Vo. Chatrod	P-CARB-1	Sealed	V	
Description	of Filter	light	+ white		
Samples Ste	ored and Locke	1			
Back Half/I Container N	Moisture Vo.	NA			•
Liquid Leve	el Marked	NA	Sealed	NH	
T.: N.F.		Initial Vol		Weight (gram	us)
mp. 140.	Contents	(ml)	Initial	Final	Net
1			488.2	510.0	21.8
2	HaO	100	767.7	7627	-5.0
3		-	689.3	690.0	0.7
4	Silica	250	941.4	973.2	31.8
5	214109		- 110	100	<i>O</i> ' 8 .
6 .					<u> </u>
	'otal				49.3
Description	of Impinger Ca	tch:	clear		

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FIELD DATA SHEET Ag. 1 of 3

Plant: #K Widd/c town
Sample
Sampling Location: P. Bagheuse # 3
Run Number: P-carb-3 Date: 9-13-16
Pretest Leak Rate: 00/cfm @ 9 in.Hg.
Pretest Leak Check: Pitot: Orsat: —

Sample Type: 1/2 Curib 4/28/424Operator: 6/2 / A

Phar: 30/5 Ps: - 1,8

CO₂: 0/5 O₂: 20.5

Probe Length/Type: 3'6/ Pitot#: 73-/
Stack Diameter: 35.5 K: 0.60%

Nozzle ID: 1/56 Thermocouple #: 73-1
Assumed Bws: 1/8 Filter #: 447746D

Meter Box #: 1/3 Y: 0.489 AH@: 1.783

Post-Test Leak Rate: 1001 cfm @ 8 in.Hg.

Post-Test Leak Check: Pitot: 1/2 Orsat: --

				<u> —</u> т														,	.	· · · · · ·				· ·		· · · · · ·	
Pump Vacuum	(in. Hg)		4.0	4.0	4.0	4.0	4.0	4.5	5.0	45	5.0	4,5	5.0	5.5	5.0	5,0	5.5	5.5	5	لم	لم	12	10	7	7	Ç(
eter Temp. n	Outlet		44	75	76	76	28	78	79	79	80	80	80	80	79	79	79	10	7	۵۲	73	74	22	75	92	76	ı ,
Dry Gas Meter Temp. Tm	Inlet		44	76	76	≥.76	78	79	49	080	80	80	.80	80	80	8	79	70	16	73	74	75	76	92	76	9۲	
Aux.	Temp.		54	51	50	48	48	49	49	48	49	50	46	45	44	45	44	5.2	23	ر م	09	45	47	<u></u>	þЗ	33	$\overline{Tm} =$
Impinger	Temp, T		62	00	57	54	55	54	52	53	54	55	57	58	57	58	57	89	h 9	64	65	56	57	54))	0٩	
fure EF	Filter		253	764	259	262	262	262	259	257	255	257	255	263	256	263	258	216	598	79.4	259	263	200	260	9%	OSE	
Temperature EF	Probe		257	255	259	262	256	261	258	257	260	263	257	254	263	260	263	764	LSE	261	258	256	253	157	550	255	, ,
Stack	(13) (13)		110	118	117	811	121	116	120	123	119	114	120	125	123	116	113	96	95	103	96	44	111	160	(05	(03	11
H	Actual		7.8	9']:	1,6	1.6	1.6	1,7	1,6	1,7	1.7	1.8	1,7	1.7	1,7	1.6	9.1	[7	1.7	[]	1.1	1.7	1-7	1.7	8-1	81	=SI
HV	Desired		1,8	1.6	1.6	1,6	1.6	1.7	1.6	1,7	1.7	<i>⊗</i> , /	61	1,7	1,7	1,6	1,6	(,7	7.7	f.7	[.7.]	1.7.	<u>L')</u>	Ü	\$ <u>-</u>	8-)	$= \underline{H} \underline{\wedge}$
Velocity	Head		3.1	2.9	3.9	2.9	2,9	3.0	2.9	3,0	3.0	3,1	3.0	_	3,0	2.8	2.8	رو ع:	6,€	30	3.0	2.9	6,6	0.40	3-1	3.1	$-\frac{d\nabla V}{d}$
Gas Meter	Reading	504.820	507.174	509.507	512,056	514,388	516.752	519,151	521.646	523,946	526.308	528, 483	530.875	533, 514	536,012	538.488	541.017	800	086,342	549,273	551.676	554.264	556.843	17 6. PSZ	561.925	39 H. 496	$\sqrt[b]{}$ he5'b5 = $m\Lambda\nabla$
Clock		1339	1342		-6241		1524	1532-	-05.51	1605-	- 0830 - 7637	5/73/		1,700-	1709-	721-	7333-	11,12,56	Shee	2503 2306	23.43	23.41	90000	8 Pi 8	30 40 vi	C 100	ΔVm =
Sampling	Time	0	3:13 /	6:37 1	e.	 	_	1	_		_	33:05	 	39:38			<u> </u>	$\overline{1}$	00:15	06:09	63 45	17:15	54:0	1		80:45	1 .
Traverse	Number	0		2	W	4	Ŋ	9		2	R	2	-y	9		2	2	7	٠,	9		2	N	7	1	2~(
												•	ćυ 3			ج	. /	•									

FIELD DATA SHEET

Sample Type: Canstary Pbar: Run Number: 1-CAR3-2 Date: 9-14-16

Bretest Leak Rate: 1002 cfm @ 8 in.Hg.

Pretest Leak Check: Pitot: 12 Orsat: 10 Plant: Are modelleto un Sampling Location: Poster, Bashing 43

Operal 3015 Ps:

page 2 83

Nozzle D: 0/56 Thermocouple #: 78-1	Assumed Bws: 18 Filter#: Untant	Meter Box #: 13 Y: 0.989 AH(2): 1.783	Post-Test Leak Rate: , 00/ cfm @ 7 in.Hg.	Post-Test Leak Check: Pitot: Crsat:
ator: 04/60	» N	20.5−	Pitot#:	K: 0,6096

<u>ر</u>	J	L	120										Mary Class M	Colon Town	F
	Point	ъŋ.	Time	Gas Meter	Velocity	∇	ΔH	Stack	Temperature EF	ature EF	Impinger	Aux.	The Tanta	Meter remp.	Fump
-	Number	Time		Keading	Head	Desired	Actual	(sr) dwar (Probe	Filter	Temp. TF	Temp.	Inlet	Outlet	(in. Hg)
		Prom Page 1		564.466											
		84:00 01	21.0	567.027	۵,	1.7	~	101	E95	255	63	27	77	76	5
	7	87:30 01	01359	569.695	2.9	7	1	9 9	259	298	62	S.S	76	76	5
	`	90:45 01	था गड़ थानुरु	572.211		مل ئ	8	101	1251	363	63	60	76	76	7
	2	94500 33	مکرده	574.627	2.9	Ĺ	17	0	259	251	63	60	17	96	7
	5	97:15 025	5.5 5.50	517. (39	3.0	٠.	٠. ح	95	257	سرد	63	62	hr	75	/^
	9	100;30	0308	579.632	3-0	مِن	(,8)	رح اح	262	265	63	63	22	75	ارح
	•	103:45 03:	7-650	582,092	2 9	-	1.7	& O	25	727	64	63	75	75	رى
	1	107:00 03:	4.0 7.7 7.2	584.617	3.0	27	۱. 8	<u>ئ</u>	263	796	64	179	22	75	7
	2	110:15 035	50h0	587.04B	3.0	1.8	6.8	9	363	358	્રે વ	05	25	75	N
	7	H2 05 211	0-4 kg	Pr4.479	9, g	17	1-7	95	3.S.C.	283	57	5	74	7 4	4.5
	, کر	116:45 ou	137 36	591.976	3.1	\ <u>\</u>	1-8	92	258	150	<u>5</u> d	53	74	74	7
Pet Volume	و	(30:05)	15.76 5.49	594.366	و د	<u></u>	<u></u>	9	196	ऋग	85	5.5	hι	7 4	7.7
501.748	•	B3:15 00	6050 P	596,826	3.0	من -	8-1	ر اح:	265	761	09	95	73	7-1	7
reak	7	126:30 05	8550	599.271	3.0	8-1	8,	2	25,	<u>-</u> 2	0 3	17	73	73	7
12000 100000	'n	129:45 05	835°	601.655	3.0	8-	ملا	93	25]	255	୧ ୨	28	73	73	7
1 50 °C	. .	133:03 10:	1017- 1021	604,248	3,1	8.7	1.8	97	252	260	58	51	70	69	5.0
3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.	γ.	136:35 10	13.83.	606.702	3,2	87	% /\	100	254	264	56	48	71	70	5,5
601.819	و	139:39 104	43-	609.000	3,3	1.9	1,9	108	257	259	58	8 /2	73	73	5.0
7		142:54 110	1103-	611,318	2,9	1.7	1.7	110	254	260	57	47	73	73	5.0 .
 گ ١	7	146:14 113	,	613.716	3.0	1.7	1.7	113	254	258	58	48	44	74	5.0
······································	2	149:34 1137	37-	616.146	2.9	1,6	1.6	811	360	257	59	50	75	44	5.0
	2	152:55 1200	200	618,556	3,0	1.7	1.7	11.7	263	258	58	49	75	75	5.0
	íν	155:47 131		620.500	ω, ∞	9.1	1.6	126	260	256	57	49	77	76	5.0
	e	159:07 1238		622,946	3,1	1,7	1,7	125	254	256	56	1/8	77	77	5.0
200	1875 S	Δ1	$\Delta V_{m} = 1$	$117.842 \sqrt{\Lambda p} =$	$=$ $=$ d_1	$A\overline{H} = \overline{H}$	$\overline{Ts} =$					$\overline{Tm} =$	II	r	

FIELD DATA SHEET Ag. 3 of 3

Sample Type: b/F carb 428/429 Operator: 60 Phar: 30,21 Ps: -1,8

Pbar:

CO₂: $\frac{\partial \mathcal{F}}{\partial \mathcal{F}}$ O₂: $\frac{\partial \mathcal{F}}{\partial \mathcal{F}}$ Probe Length/Type: $\frac{3'e_I}{2'e_I}$ Pitot#: $\frac{73'I}{2'e_I}$ Stack Diameter: 35.5" K: 0.

Run Number: P-Carb-3 Date: 9-14-16
Pretest Leak Rate: 601 offn @ 7 in.Hg.
Pretest Leak Check: Pitot:

Sampling Location:

Meter Box #: /3 Assumed Bws: 7.8 9609

9 8 in.Hg. Orsat: Y: 0.484 AHQ: 1,783 Thermocouple #: 73-/ Filter #: Untared Post-Test Leak Rate: , 001 cfm @ Post-Test Leak Check: Pitot: V Nozzle ID: 156

		1117	,,,,,,				1	Т		т	1	1	т—	 	 -	 	 	 			<u>-</u>	,
Pump	(in. Hg)		5.5	5.5	5.0	5.0	5.0	رد. اور	5.5	5.5	6.0	6.0	0.0			į				ANNUAL TO THE PERSON NAMED IN COLUMN NAMED IN		-
Dry Gas Meter Temp. Tm	Outlet		78	7.2	29	26	130	78	78	18	44	79	29									
Dry Gas M	Inlet		78	29	08	78	78	78	78	64	29	29	79									
Aux.	Temp.		50	51	50	65	34	617	64	49	50	49	48									
Impinger	Temp. T		5.8	59	58	27	56	5-8	59	59	09	29	57		}			wester				
Temperature EF	Filter		256	256	257	498	261	257	263	257	365	262	265									
Тепрег	Probe		198	255	253	260	255	263	259	256	263	255	198							į		
Stack	Temp (1s)		125	122	108	44	011	113	114	116	117	116	114					,				
AH	Actual		1.7	8.7	8.7	∞ '/	8'	1.8	7.8	8:7	1.8	1,8	1.8									
7	Desired		1.7	8:1	/.8	1.8	1,8	1.8	1.8	1.8	1.8	1.8	1.8		r.				-			
Velocity	Flead		3.0	3,1	3,1	3,1	3.1	3.2	3.2	3,2	3.1	3.1	3,7									
Gas Meter	Keading	622.946	625,392	627.789	630,194	632,711	635,118	637.528	640.096	642,424	645.028	647,64.5	650,162		,							
Clock		1235-	1257-	3/3-	1325-	12.6-	1434-			523-		,										
Sampling	Time	154:07	162:24	165:36 1	168:53 1	172:11	175:27	178:43 1	182:00 /	185:18 /	188:39 1	141:44	195:06									
Traverse Point	Number	0	-	2	3	7	15	9		7	w		5									

 $f_{\text{100}} \text{Vm} = 145.058 \sqrt{\Delta p} = 1.7332 \Delta H = 1.73 Ts = 108$

AP = 3.0051

 $\overline{Tm} = 76$

Plant A	K Middlet	ample Box No ncy Baz4ovse BF/RK 3		Run No/	P-CARB-2
Date 3/14	1/16 S	ample Box No.	5B-7	Job No.	952074.017Z
Sample Loc	cation Peshin	ny Bagyouse		Filter No.	ALL UNTERED
Train Prepa	rer NP		Sample	Head No.	SH-3
Sample Red	covery Person	BF/RK	Baro	ometer No.	TWC. com
Comments	CARI	3	 Ba	lance No.	FB-2
Front Half		•			
Acetone]			_	
Container N	TO. P-CARB-2]	Level Marked	Sealed		
			-		
Filter					•
Container N	No. P-CAR	3-2	Sealed		
Description	of Filter	light ar	ey loading		
-		. , , , , , , , , , , , , , , , , , , ,	,	,	
Samples St	ored and Locked	1			
	•				
Back Half/	<u>Moisture</u>				
Container N	Vo	NA			**************************************
Liquid Lev	el Marked	vs	Sealed	NA	
T N.T.	G 4 4	Initial Vol		Weight (gr	ams)
Imp. No.	Contents	(ml)	Initial	Final	Net
1		·	510.0	537.5	27.5
2	H20	100	761.6	754.6	-7,0
3			667.6	669.5	1.9
4	Silica Gol	750	923.7	966.8	43.1
5					
6					
	Cotal	<u> </u>			65.5
	•			<u> </u>	J 40 20
Description	of Impinger Ca	tch:	clear		

FIELD DATA SHEET

Page 10f 3

Sample Type: We card 428/429 Operator: 60/0 Pr Pbar: 30.21 Ps: __1,9

CO₂: 0₂: Probe Length/Type: 3'61 Pitot#: 73-1 CO2;

Run Number: P-carb-3 Date: 9/14/16 Pretest Leak Rate: .001 cfm @ 7 in.Hg. Pretest Leak Check: Pitot: Orsat:

Plant: #K Mid. Sampling Location:

Stack Diameter: 35,5"

Y: 0.989 AH@: 1.783 Post-Test Leak Rate: 220 cfm @ 7 in Hg. Post-Test Leak Check: Pitot: VOrsat: _ Thermocouple #: 73-Filter #: Untared Nozzle ID: , /56 Assumed Bws: /.8 Meter Box#: /3

			٦		r				,																	
Pump Vacuun	(in. Hg)		6.0	6.5	0.7	7.0	7.0	ତ୍ତ	20	7,0	02	7.0	02	2.0	7.0	07	20	7.0	7.9	20	7.0	7.0	5.0	7,0	7.0	7-0
Dry Gas Meter Temp. Tm	Outlet		74	79	29	79	79	7	7	F	7	71	70	20	70	20	70	20	20	59	20	69	00	2 2	69	(d
Dry Gas M	Inlet		29	80	08	79	80	7	20	20	26	20	70	20	70	97	20	ol	70	ナロ	20	70	69	20	0	<u></u>
Aux.	Temp.		50	48	49	49	50	57	57	58	20	23	89	8 8	59	09	09	60	0	J 0)	0 (63	53	52	Ç	ζH
Impinger	Temp. F		60	58	57	58	59	67	5,5	28	09	09	29	63	63) 9 	64	اوكر	65	621	65	65	ر م	()	60	ر ئ
Temperature EF	Filter		261	261	360	259	361	250	259	259	298	358	b5 €	259	339	259	260	138	257	259	259	096	759	257	260	1357
Temper	Probe		249	250	251	247	253	263	260	259	258	259	255	257	252	85c	260	H56	257	198	259	258	35E	756	356	L5 C
Stack	Temp (Ts)		113	11 ÿ	115	8//	116	چ رو	94	96	44	103	47	001	86	9 9	વ ન	<u>3</u>	95	95	67	ከ 8	005	851	98	98
HΣ	Actual		8 /	8.7	1.8	8.7	87	6')	() ()	1.8	1.7	7.1	7	1	L-1	<u>/</u>	<u></u>	17	L 1	L 1	('	<u>ک</u> آ	&^)	8:1	ا د	87
Ŋ	Desired		, 8 , 1	8"/	87	1.8	8'/	(,9	1.8	٦, 8	17		7	17	1.7	1.7	7	1,7	1.7	67	1.7	ملا	27	火 つ	\ <u>\</u>	¥.
Velocity	Head		3,1	3,3	3,1	3.1	3,/	3.2	3.0	3.1	3.0	3.0	p. 6	8,6	4.0	9.9	9,6	2 م	6 2	2,9	6,6	3.0	3.0	3.0	0 کر م	3.0
Gas Meter	Reading	650.382	652.812	655,151	657.598	660,129	662.818	665.774	588.399	828.029	673.29	675.822	878.378	680.672	683, 153	685.582	688.003	690.555	693.006	695,405	697-868	700.300	702.699	705.174	ToT. Wer	710.095
Clock		1635	1638	1648-		1722-			25.5 25.5 25.6 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20	_		23.22			\$ 1.00 \$ 4.00	े कर के स्मार्टिक स्मार्टिक	\$6.57°	0116	20.30			<u> </u>	0347	0353		l .
Sampling	Time	0 1	3:16	6:37 !	9:57	6	39	30.15	23:45	37:00	30:15	33.45	37:00	1001	42.30	145	00:	53:30	54:45	00:00	ه کار ده	0	54:69	73,00	76/15	0
Traverse	Number	0	•	2	W	7	5	9		2	~	7	5	9		2	N	7	5	9		2	2	2	2	9

 $= \underline{H} \nabla$ $P_{\text{rad}} \Delta V \text{m} = SQ.SD.$

 $\overline{Tm} =$

Date: 9/15/16 华 BA madleton Plant: At Madleton Run Number: 9-cans - 3 Pret Se

5 65 5 5 65 5

Sample Type: Cars 478/479 Operator:

 O_2 : CO_2 :

FIELD DATA SHEET Page 2 of

Thermocouple #: 73-1 Nozzle D.; 0,/56 Assumed Bws: L.R.

Y: 0.98 4 AHQ: 1.78 Filter #: un twent Meter Box #: /3

refest I.	refest Leak Rate: 0.00 2cfm @	32cfm	@ 9 in.Hg.	Pr	Probe Length	eneth/Type: 3	6/ Pitot#:	1. 73-1		Post-Te	Post-Test Leak Rate:	1	cfm @	in Ho.
retest Le	etest Leak Check: Pitot:	Pitot:		Sta	Stack Diameter:	9	П	-6		Post-Te	st Leak Cl	k: Pito		Orsat:
Traverse	Sampling	Clock	Gas Meter	Velocity	A	ΔH	Stack	Temperature EF	ture EF	Truminger	Aux.	Dry Gas Meter Temp.	Meter Temp.	Pump
Number	Time	7	Reading	Head	Desired	Actual	Temp (Ts)	Probe	Filter	Temp. F	Temp.	Inlet	Outlet	(in. Hg)
			710.095											
	54.68	8/19/2	712.612	2.0	٠ ه	8	84	260	261	59	hs	17	70	1,0
7	GP 399	0433 TE	7/4.873	3.0	1.8	1.8	27	259	358	59	53	7 (70	5.7
K	89:15	45 13 FU	17.353	30	(,8	(, 8	86	762	258	61	hS	17	20	7,0
-7	92:30	1150 co	266.616	ا ال	1.7	6.7	87	550	096	09	ES	70	70	7.0
-\$	Sh:56		821.665	3-1	& 0	(, مح	60	258	360	-0	56	06	02	0.2
ی ا	99:00	0538	1	2, C	ک	ر ا ا	ઝુ	242	361	19	. 55	70	69	J. C
	102:16		727, 268	2,9	1.7	1,7	φij	245	260	63	54	65	65	7.0
4	105:33	16.46-	729.557	2.9	1,7	1.7	100	248	260	19	52	99	65	0%
ž	55:801	-4501	731.959	2.9	1.6	1.6	110	250	263	58	19	99	99	70
7	113:11	-85//	734.339	3.0	1.7	1.7	108	798	259	57	50	27	67	7.0
S	115:35	1138-	736.775	2.8	9"	9.7	113	259	259	56	50	68	67	2.0
2	118:56	1333	734.180	2.9	1,6	1,6	111	263	262	58	51	69	89	7.0
	122:15	17.61	741.425	2.9	1.6	1,6	112	798	360	59	50	11	20	7.0
n	125:29	1347-	743.793	3,2	1,8	1,8	114	258	196	00	49	73	77	7.0
3	128:43	1258-	746.108	3.0	1.7	1,7	811	265	258	57	50	73	11	7.0
、ユー	132:01	1307-	748.466	3,1	1.8	1.8	113	360	260	58	87	73	72	2.0
1	135:17	13/8-	750,839	3.1	1.8	1,8	113	764	259	57	48	73	72	7.0
ی	138:41	1332-	753,328	3,0	1.7	1.7	118	263	259	58	48	74	73	7.0
	142:03	1344-	755.818	3,0	1.7	1,7	115	256	260	57	47	74	73	7.0
7	145.16	1436-	758,150	2.9	1.6	1,6%	117	254	196	56	47	75	24	7.0
۲	148:33	-85/1	760.643	3.0	1.7	1.7	114	259	258	58	48	92	7,5	0,7
		3	1	_					_					

724.04W

Physic

S &

0,089

15.6° 45.0°

181

7355 E

Tm =

7.0

20 76

50 4.0

59 500 56

257 259

3.0 3.0 3

> 763,203 765.656

55:15 151:57

T

257 258

811

3

376

 $\Delta H = H \Delta$

TS =

 $\Delta V m = \zeta$

 $= d \nabla \Lambda^{-}$ 47.877 158:33 1543

Run Number: $\frac{\rho \cdot \zeta_{\delta} \cdot b \cdot 3}{1000}$ Date: $\frac{g//5/16}{1000}$ Pretest Leak Rate: $\frac{g_{\delta}}{1000}$ cfm @ $\frac{g}{100}$ in.Hg. Pretest Leak Check: Pitot: $\frac{1}{1000}$ Orsat: Sampling Location: Plant:

Sample Type: $\frac{(a_1b/428/429)}{30.24}$ Operator: $\frac{6b/b}{1}$

CO₂: O₂: Drobe Length/Type: 3'6/ Pitot#: 73-/ Stack Diameter: 35.5" K: 0.6096

FIELD DATA SHEET fg. 3 cf 3

Three Sampling Clock C										, 	,		·	1.							,			,		,·	
Tree Sumpling Clock Cles Medicary Theorem Tree	Pump	(in. Hg)		7.0	7,5	7.5	7.5		7.5	7.5	7.5	73.5	1	15.7	١_,						- Bernardian				Constant		
Tree Sumpling Clock Cles Medicary Theorem Tree	eter Temp. n	1 -		77	77	77	11	47	28	7 83	70	20	70	70	-												
Timenes	Dry Gas Mr Tr			44	77	77	28	77	28	82	20	70	70	70	70												
Throwsee Sampling Clock Clos Motor Throwsee Clock Time T	Aux.	Temp.		50	50	49	49	84	49	50	52	es	50	こ													
Three Sampling Clock Clock Three Choicy Three Sampling Time Reading Time Reading Clock Time Clock Cloc	Impinger	Temp. T		59	57	57	58	56	57	5-8	*89	64	i.	9	_9						_						
Throwence Sampling Clock Gas Mater Velocity AH Stack Number Time Reading Head Actual Temp (Ts) Point Time Reading Head Actual Temp (Ts) Point (Ts) 23 12.35	fure EF	Filter		258	360	198	260	260	360	360	256	259	260	85C	259		-										
Traverse Sampling Clock Gas Meter Velocity AH Number Time Reading Head Actual Actual Time Time Time Reading Head Actual Glips of 1524 1524 168.145 Mills Head Actual Actua	Tempera	Probe		254	255	259	259	251	258	262	262	150	256	3 t E	700	,											
Traverse Sampling Clook Cas Meter Velocity Point Time Reading Head Desired 158:33 1534 170.762 3.1 1.8 1	Stack	Temp (1s)		115	11.3	112	110	11.7	119	113	9 (89	90										٦	,			
Traverse Sampling Clook Cas Meter Velocity Point Time Reading Head Desired 6 158:33 1534	¥	Actual		8'/	811	7.8	1.8	1,7	8.7	1.8	l. 8	ි මා	1:1	1.7	1,										•		
Traverse Sampling Clook Gas Meter Point Time Time Reading 6 158:33 1534-7 768.145 6 168:24 1535-770, 762 2 168:24 1634-775, 93.0 4 171:50 1634-775, 93.0 7 175:07 1705-782-782-781 8 18:15 2235-781-92 9 191:30 2235-791-92 1 191:30 2235-791-92 9 191:30 2235-791-92 1 191:30 2235-791-92 9 191:30 2235-791-92 1 191:30 2235-791-92 9 191:30 2235-791-92 1 191:30 2235-791-92 9 191:30 2235-791-92 1 191:30 2235-791-92 9 191:30 2235-791-92 1 191:30 2235-	ΔI	Desired		8.7	87	1,8	1.8	1.7	ð0 ''	87	1.8	90	<u>',</u>	1.7	7.7												
Traverse Sampling Clock Point Time Time Time Time Time Time 158:33 /534-543-543-543-543-543-543-543-543-543-	Velocity	rlead		3.1	د د	3,2	3,1	3,0	3,1	3,7	3.()	8. E	3.9													
Traverse Sampling Clock Point Time Time Time Time Time Time 158:33 /534-543-543-543-543-543-543-543-543-543-	Gas Meter	Keading	768.145	770,762	773,378	775,930	778.516	781.078	783,630	786.074	788,794	791.366	793.692	796,103	798.551												
Traverse Sampling Point Time 6 158:33 1 161:53 2 168:24 4 11:50 3 168:25 4 175:07 6 198:25 6 198:25 6 198:25	Clock													-	-	nlas y											
Traverse Point Number of A A A A A A A A A A A A A A A A A A	Sampling					. 1					100:501		ı	ı												<u> </u>	
	Traverse	Number	e.	1				5	9	1	8		7	\^		,					-						
5 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3			1	<u> </u>		 ;	3594) [2]	27 700	13 32 S	36.0	- N	2	<u> </u>	<u> </u>		1	<u>l</u>	<u>l </u>	<u> </u>	<u> </u>	<u></u>	l	L	<u> </u>		<u> </u>

 $\Delta V_{\rm m} = 147.718 \sqrt{\Delta p} = 1.7342 \Delta H = 1.745 T_{\rm s} = 103$

2

 $\overline{Tm} =$

28-301

	Middle to	N N		Run No.	CARB-3
Date_ 9/15	1/4 0 1	Sample Box No	4)B-L	Job No. 5 h	074.0172
Sample Lo	cation 1564	y Begliese	<u> </u>	Filter No. 4	ruat I
Train Prepa	arer <u>nb 16</u>	35	Sample	Head No	<u> B</u>
Sample Re	covery Person	DA/C3	Bar	ometer No	
Comments		7RB	B	alance No	
Front Half Acetone	P-(AR R-3	Liquid			
Filter Container I	No. Qurat	P-CAUS-3	Sealed	<u> </u>	
Description	n of Filter	Clem			
Samples St	tored and Locks	ed			
Back Half/ Container l	Moisture No.	P-(ARB-3			
Liquid Lev	el Marked	. The second sec	Sealed _		
		Initial Val		Weight (ora	ms)
Imp. No.	Contents	i	Initial	,	Net
1	DOT	<u> </u>	<u> </u>	ļ	21.1
	 			1	6.3
	76				
	//2			T	3:7
	Filia Col	150	173.2	11017.8	39.6
				V 0 - 1	
6		<u> </u>			
	Total	1	1	1	70 7
	Front Half Acetone Container Filter Container Description Samples St Back Half/ Container Liquid Lev Imp. No. 1 2 3 4 5	Front Half Acetone F-CARB3 Container No. Filter Container No. Quret Description of Filter Samples Stored and Locke Back Half/Moisture Container No. Liquid Level Marked Imp. No. Contents 1 MT 2 MJ O 3 MT 4 Silia Cal 5	Front Half Acetone f-CARB-3 Liquid Container No. Level Marked Filter Container No. Quret f-CARB-3 Description of Filter Clear Samples Stored and Locked Back Half/Moisture Container No. for CARB-3 Liquid Level Marked Imp. No. Contents Initial Vol (ml) 1	Front Half Acetone P-(4863 Liquid Level Marked Sealed Sealed Filter Container No. Quart P-CAB-3 Sealed Description of Filter Clear Samples Stored and Locked Sealed Sealed Marked Sealed Imp. No. Contents Initial Vol (ml) Initial Imp. No. Contents Initial Vol (ml) Initial Imp. No. Contents Initial Vol (ml) Initial Imp. No. Contents Initial Imp. No. Contents Initial Imp. No. Contents Initial Imp. No. Contents Initial Imp. No. Contents Initial Imp. No. Contents Initial Imp. No. Contents Initial Vol (ml) Initial Imp. No. Imp. No. Contents Initial Vol (ml) Initial Imp. No. Imp. No. Contents Initial Vol (ml) Initial Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Initial Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. Imp. No. Imp. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. No. Imp. Imp. No. I	Container No. Container No

Ar midletom

Run Number: (CARB- | Date: 4-13-16 Pretest Leak Rate: John cfm (2) 10 in.Hg. Pretest Leak Check: Pitot: Plant: / (/ / / / cd / for / / Sampling Location: Combinition That

Operator: Sample Type:

CO₂:

Pitot#: 76-15P K: 53.113 Probe Length/Type: 6'61 Stack Diameter:

FIELD DATA SHEET

14gg 1 of 2

Nozzle ID: '500 Thermocouple #: 76 .15P Meter Box #: 3 Y: 1.095 AH@: (-681 Filter #: Unfored QZ Post-Test Leak Rate: Lool ofm @ 10 in.Hg. Post-Test Leak Check: Pitot: 1 Assumed Bws: 10

																					,					
Pump Vacuum	(in. Hg)		3	^	8	~~	5	S	4	b	6	کی	لى ر	3	Ь	^ا رک	√	5	7	5	γ	5	7	5	5	5
Dry Gas Meter Temp. Tm	Outlet		65	63	63	É	Ø/	B	ÉS	99	29	68	63	70	20	1/	73	73	74	74	75	22	96	76	77	77
Dry Gas M	Inlet		65	63	E	É	. 59	(3)	63	EL	, X	92	. 26	. 66	80	80	18	. 18	. TA	28	£3 .	₽¥	8 7	F	85	26
7 Ve & Vuix.	Тетр.		Z	199	68	E	63	63	49	48	50	25	57	6/7	<i> 8,5</i>	47	25	53	2	55	<i>S</i> ₹	53	55	53	56	56 19
Impinger	Temp. T		Ø5	65	64	89	56	45	55	98	27	25	83	58	57	57	95	99	26	56	56	23	57	23	B	9
ture EF	Filter		260	19E	263	Ses	264	19C	365	264	764	365	496	764	264	250	HOC	764	764	264	1964	h9C	<i>70</i> 4	363	J64	363
Temperature EF	Probe		Ho	19C	265	J.	357	h9C	pst.	767	266	398	49E	262	99E	196	266	263	105	1257	Tes	990	750	358	270	263
Stack	Temp (Ts)		353	355	858	359	363	378	369	323	367	HE	348	158	353	354	359	198	498	370	372	378	372	375	346	383
	Actual		1.0	4.1	<i>h</i> 1	3	l'H	h')	5.)	7.	1-1	4.	1.4	五	h-J	<i>h</i> :)	4.1	<i>H</i> .)	4.1	**************************************	5.	h./	<i>ħ</i> :÷	<u>.</u>	7.	₩1
ΗV	Desired		1.0	1.4	19.1	4:1	J .	<i>h</i> /	h-1	4 ,		H)	1.4	프	7.	h'1	1,-)	h')	1.4		P	4.4	h')	크	h-)	4'}
Velocity	Head		(0)	, 99	40.	CE	is.	403	<i>ф0</i> :	J,	40.	75	, c4.	Yo.	40.	è	20	40'	ήο,	£	ड	40.	io.	J.O.	70,	ilo,
Gas Meter	Reading	284.387	287.2	290.5	293.8	297.2	300.5	303.9	307.3	310.7	314.1	317.4	330.7	1.486	327.4	330.7	334.1	337.4	340.7	344. 1	347.4	350.3	7.64.1	357.6	360.9	364.2
Clock		1005	60/0	1015	0501	1	1	2501	cho!	\$40)	0501	550)	1 (00	165	1/10	5///	1(30	1129	1/30	1135	Gh) /	5/1/1	05/)	25	0001	30%
Sampling	Time	G	12	Ó	12	2	22	0%	5%	e z	45	E	ア	0.0	65	20	8	30	88	90	35	001	105	110	511	020
Traverse	Number	0	1	C.E.	~	wid	5	0	~	B	,5	9		Ç	anna.	C	er	Programme in the state of the s	n	C	7	4	2	2	-	6)

 $\overline{Tm} =$

 $\Delta Vm =$

EQM EQM

FIELD DATA SHEET

Page 2 of 2

Plant: AK Middle form

Sampling Location: Combwhwn Stack
Run Number: C - CAffs - 1 Date: 9-13-76
Pretest Leak Rate: 001 cfm @ 10 in.Hg.
Pretest Leak Check: Pitot: 05 Orsat: -

Sample Type: $\frac{O/F}{CARG}$ Operator: $\frac{O/P}{ARG}$ Operator: $\frac{A/P}{ARG}$ Operator: $\frac{A/P}{ARG}$ CO₂: $\frac{A/P}{ARG}$ O₂: $\frac{A/P}{ARG}$ Probe Length/Type: $\frac{A/P}{ARG}$ Pitot#: $\frac{A/P}{ARG}$

168"

Stack Diameter:

Assumed Bws: 100 Thermocouple #: 76-150
Assumed Bws: 100 Filter #: Un And QZ
Meter Box #: 200 Y: 1005 AH@: 1.685
Post-Test Leak Rate: 2001 cfm @ 100 in.Hg.
Post-Test Leak Check: Pitot: 100 Arg.

Property Standard Cook C																												(Z)
Sampling Clock Cas Meer Velocity Alt Stack Temperature EP Impirity Temp T	Pump	(in. Hg)		۲	کم	۲,	7	5	5	5	5	ک	ζ	<i>ا</i>	ζ,	5	5	5	Ŋ	ρλ	ئى	5	5	N	ged	W	€	
Sampling Clock C	eter Temp. n	1 :		79	79	79	80	80		18	81	82	82	83		18	83	68	68	86	85	85	85	B	86	X	B	ı
Simpling Clock Clock Reading Read Deired Actual Temp (75) Probe Filter Temp (75)	Dry Gas M			98	87	87	88	88	90	89	89	96	90	90	90	, 16	90	91	16	41	92	92		62	93	93	13	
Sampling Clock Cas Mater Velocity Head Desired Actual Notice Filter Time Reading Time Reading Head Desired Actual Notice Filter March	Aux.	Temp.		59	57	57	55	55	56	53	9	51	53	53	55	55	53	53	53	6/3	hβ	49	48	,50	50	5	\$1	TW
Sampling Clock Reading Readi	Impinger	Temp. °F		57	58	38	57	15	57	15	19	9	85	23	95	85	58	19	19	56	25	56	56	56	157	23	27	
Sampling Time Reading Head Desired Actual Time Reading Head Desired Actual Time Time Reading Head Desired Actual Time	ature BF	Filter		364	26%	205	264	264	264	264	59C	264	263	HOT	196	265	365	264	263		(P		265	1.9E	363	303		
Sampling Clock Reading Read Desired Actual Tom 135 1210 367.6 .04 1.4 .14 .34 .45 .35 .25 .27 .04 .14 .44 .35 .25 .25 .24	Temper	Probe		253	254	ODE.	26	763	h9Z_	267	C9C	960	196	251	1961	263	263	264	365	263	CT	Bd	$\mathcal{B}_{\mathcal{I}}$	750	Lo	197	6	1
Sampling Clock Reading Head Desired Actual Time Reading Head Desired Actual Reading Head Desired Actual Reading Head Desired Actual Reading Head Reading Head Read Reading Head Read Read Read Read Read Read Read R	Stack	Temp (Ts)		355	<i>55</i> {	357	362	306	370	375	376	£58	344	348	249	360	360	355	356	395	377	377	378	346	344	253	353	
Sampling Clock Reading Reading Finne Reading Head Desired 1.55 1210 367.6 .04 1.4 130 1215 371.0 .04 1.4 130 1215 374.4 .04 1.4 140 1235 385.0 .04 1.4 226.10 1255 394.8 .04 1.4 226.10 1255 394.8 .04 1.4 226.10 1255 395.7 .04 1.4 226.10 1255 395.7 .04 1.4 226.10 1255 395.7 .04 1.4 226.10 1255 415.0 .04 1.4 226.10 1215 415.0 .04 1.4 226.20 1215 415.0 .04 1.4 226.20 1215 415.0 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.3 .04 1.4 226.20 1215 412.5 .04 1.4 227	Н	Actual		1.4	4.1	4.1	1.4	4)	4.1	h ⁻)	<u> </u>	7	<u> </u>	<i>ħ'</i>]	h -i	h:)	17')	1.7	3-1	h'1	h'1	1.	67	7.	<i>h</i> -)	51	4,4	1,3417
Sampling Time Reading Heading Time Reading Reading Time Reading Heading 13.00 12.10	Ø	Desired		1.4	167	1.4	67	H')	<i>H</i>)	1.4	7.	4-1	7	<i>H</i>)	4.1	h-1	4.1	57	151	1.4	7.)	7	5.)	7	5.1	<i>ħ"1</i>	λ' /	$H = H \Delta M =$
Sampling Clock Gas Meter Time Reading Reading Time Reading April 120 367.6 130 374.4 145.0 130 130 341.8 130 1405.3 145.0 1405.3 145.0 1405.3 145.0 1405.3 145.0 1405.3 145.0 1405.3 145.0 1405.3 145.0 1405.3 145.0 1405.3 145.0 1405.3 145.0 1405.3 145.0 1405.3 145.0 1405.3 145.3 145.3 145.3 145.3 145.3 145.3 145.3 145.3 1400 1413.7 145.3 1400 1413.7 145.3 1400 1413.7 145.3 1400 1413.7 145.3 1400 1413.7 1400 1413.7 1400 1413.7 1400 1413.7 1400 1415.8 1400 1413.7 1400 141000 141000 141000 141000 141000 141000 141000 141000 141000 141000 141000 141000 14100	Velocity	Head		40.	40.	40,	30%	10,	ho,	P.	40.	30,	40,	Ź	HO.	70,	, o.	40.	40	Ho,	£	ho,	40,	Ź	75	30,	ijo,	$\Delta p = +44$
Sampling Clock Time Ti	Gas Meter	Reading			371.0	374.4	378.3	3:18	385.0	783.4	391.8	395.1	398.5	101.9	405.2	408 8	112.0	4/5.0	48.8	422.1	425.3	6 8 2 n	432.3	4. n& n	139.7	1 C C	1415,955	
Sampling Time (35) (35	Clock	T TITLE		017)			SEE)	1230	1235	oh&/	1245	0361	1366	1300				1320	325	(330		13%	346	1350	1355	00),1		$\Delta Vm = 1$
Traverse Point Number	Sampling	Time		125	/30	135	041	5/1/	0.5)	155	०७१ सक्ट	200	57. 87.20	£ 18	38	7		3.7. R.	100 PM	377	3000	255 SE	of of the	7.53	अस्ट अस्ट	35, 25	気点	
	Traverse	Number	The state of the s	,	Q	2	h	5	9	7	8	5	0)		2		~	,	7	5	ب	-	8	9	0	_	Ċρ	

(12p. 0.19944 Ave DP. 103979

lant	111 /1	1001/etwr		Run No.C-	
Date 9		Sample Box No.		Job No05	2074.6172
		DBUSTION SI		Filter No	NA
rain Prepa	irer	V OF/RC	Sample l	Head No	10
Sample Re	covery Person _	BF/RIC_	Ваго	meter No	pul.com
Comments	CA	es McAnd	Ba	lance No	FB-2
Front Half Acetone Container 1		Liquid Level Marked	Sealed	<u></u>	
Filter Container l	No	Carb-1	Sealed	V	
Description	n of Filter	Black			
Samples St	tored and Locke	d			
Back Half/ Container l	Moisture No.	NA			
Liquid Lev	vel Marked	WA	Sealed	ŅA	
		Initial Vol		Weight (gr	ams)
	Contents	· (ml)	Initial	Final	Net
Imp. No.	<u> </u>		484:0	816.5	
		1			- 38.9
1	11.0	100	7682	129 U	
1 2 .	H20	100	7683	729.4	
1 2 3		==-	665.7	669.6	3.9
1 2 3 4	Hzo Silica	100		·	
1 2 3 4 5		==-	665.7	669.6	3.9
1 2 3 4		==-	665.7	669.6	3.9

Page 1 of 2

FIELD DATA SHEET

Sample Type:

Stack Diameter: Run Number: C-CARS-2 Date: 9-12-16 Pretest Leak Rate: '00 ofm @ 10 in.Hg.
Pretest Leak Check: Pitot: 1 Orsat: Plant: Conbuston Sand AK Middletam

Pito#: 76 ハテク Operator:

Filter #: Undared Nozzle D: 500 Thermocouple #: Assumed Bws: 10 Filter #: unfare

Meter Box #: 2 Y: 1-005 AH@: 1.68.
Post-Test Leak Rate: cfm @ __in.Hg.
Post-Test Leak Check: Pitot: __Orsat: ___

r		~~~	·				_	_					_														
Pump Vacuum	(in. Hg)		5	4	4	4	1	Z	5	b	5	ላ	Ŋ	5	5	r	5	ک	5	2	. 5	5	Ŋ	5	Ŋ	Ы	
Dry Gas Meter Temp. Tm	Outlet		Ø	64	66	99	49	67	67	63	69	69	Q	12	72	73	73	α	96	17	86	7.8	78	79	8	8	ı
Dry Gas M Ti	Inlet		Õ	E	67	89	70	73) hC	76	11	- 82	28	80	18	8	82 +	B	85	. 98	87	88	88	88	49	84	.
Aux.	Temp.		Q	09	36	37	3>	32	37	3>	38	38	3>	58	38	38	39	36	2	7	75	77	U 3	7-	ήή	Ьh	\overline{Tm}
Impinger	Temp. T		62	65	63	19	23	59	59	60	9	60	60	59	59	Ó	Co	60	6	Ø	62	CZ	B	63	<u> </u>	6	
Temperature EF	Filter		260	270	265	265	0	200	HIC	Hit	590	264	Silver	264	263	205	364	364	264	265	h9E	263	364	263	263	263	
Temper	Probe		760	550	500	198	196	266	365	764	198		72	263	284	265	263	Loy	\mathcal{IC}^{ij}	M	hR	263	PSC	267	265	7964	ı
Stack	Temp (Is)		379	353	356	355	357	362	59€	371	374	374	. 085	345	3/12	349	351	350	351	192	367	369	272	375	340	340	
ΔH	Actual		1.3	1.3	1.4	4.1	4.1	h-1	67	<i>h</i> "/	h ")	67	61	6.1	4.1	4.7	67	h'!	<i>h')</i>	hit	41	h.)	hi	h'l	Į,	7.	$\overline{T_S}$
Δ	Desired		(.3	1.3	1.4	61	4.1	6-1	4-1	h')	$h^{\prime\prime}$	15')	61	41	4.1	1.4	h.)	<u>J.</u>	1,1	7.	1.4:		ከነ	И	ヹ	7.	$=H\Delta$
Velocity	Head		40,	JO.	40	40,	70.	,04	70,	ż	40	40,	¥o.	Ŋo,	. oH	¥0.	' ত	ふ	£.	Ď	37.0	70,	3 0	, , , , ,	Ho.	₹	$= d \nabla \nabla$
Gas Meter	Reading	446.(30	MAG. 4	452.7	456.9	454.3	462.5	465.5	469.3	47.5 V	475.4	479.1	482.4	486.7	184, 1	h 162 h	\$ '5bh	£.66%	500. 6	505.9	509.2	513.1	5/6.0	519,5	873.4	h-9ES	7
Clock		4 5 5	0001	5001	0/0/	10/5		5001	1030	7601	0/10/	1045	1050	1055	//60	11.05	QI JJ	5/11	1120	1125	130	1135	0 / 11	5h1;	0911	1355	$\Delta Vm =$
Sampling	Time	0	7	õ	2	20	25	3.0	3.5	04	35	50	55	09	65	70	75	30	SA	40	95	00	60)	01-2	115	120	
Traverse	Number	٥		0	~	h	V	9	7	B	2	9	- Tana	ひ		7	~	3	N	2	-	→	-	٥	=	Ø	

FIELD DATA SHEET

Sample Type:

Stack Diameter:

Rum Number: C-CARG-3 Date: 9-3-16
Pretest Leak Rate: cfm @ 10 in.Hg.
Pretest Leak Check: Pitot: 1

Crambuston Stark

Plant: (IN / Sampling Location: 1

AK Middleturn

CO₂: 3 O₂: 15 Probe Length/Type: 6' 6' Fitot#: 76:15 ARB Operator:

Page 2 of 2

Nozzle ID: 500 Thermocouple #: 76-159 Meter Box #: 2 Y: Leos AH@: /68,
Post-Test Leak Rate: aw 2 cfm @ 2 in.Hg.
Post-Test Leak Check: Pitot: 1 Assumed Bws: 10 Filter #: Unfaced

		 										r												, ——·		1
Pump	(in. Hg)	S	5	5	5	5	5	5	5	9	S	٧	Š	5	2	5	5	5	25	ر ب	5	5	5	5	(r)	
Dry Gas Meter Temp. Tm	Outlet	83	\mathcal{Z}	83	28	<i>C</i> 8_	52	88	26 0	58	83	83	58	83	23	83	88	S	83	R3	83	B	83	48	84	
Dry Gas M	Inlet	87	81	90	Ob	оb	06	. 16	90	Ob	90	40 4	0k	, 0b	68	8	89	89	90'	. %	90	90	0b	16	16	-
Aux.	Temp.	36	37	37	38	37	38	39	2	25	25	37	37	38	37	38	33	w W	40	43	43) h	οh	9 λ	2	
Impinger	Temp. Tr	55		20	56	55	28	Z	54	23	S	Sų	HS.	23	56	55	25	Z	57	B	19	09	99	129	54	
fure EF	Filter	263	365	Z	263	H	192	16%	263	ht	83	563	EX.	SIR	59C	SCI	24	R	265	ZZ.	DEY	The	76H	204	KH.	
Temperature EF	Probe	264	265	264	264	Sell	269	264	265	12 m	1990	h92	264	F.F.	254	365	25	52	R	126	126/	266	Ses	263	764	
Stack	Temp (Ts)	38	355	355	356	327	353	360	361	373	375	368 3	359	, 8K	3419	354	353	AGS.	357	368 .	26.0	372	313	373	370	٠/٢
H.	Actual	H,	۲,4	h'1	HI	171	h. J	4.4	7.	<i>у</i> .	h')	1.4	h-)	151	4.1	1.4	4.4	1.4	١,٢	۲.)	14	h'1	1.4	1,4	Ţ	,
ΗV	Desired	h'l	<i>h</i>)	1.4	4,1	b')	6)	h')	15'	h)	7)	h' l	F,)	/7')	4.1	h-)	1.4	1.4	1.4	1.4	7	17	H.	7.	H!	
Velocity	Head	40.	40.	1,0,	40.	, 04	40,	B	30	16	75	بن با	, 0 ⁴	40.	40,	40.	, off	, о4	40.	, O y	04	40-	₩0.	HO:	ho.	
Gas Meter	Reading	6300	533.1	536.5	539.9	5433	546.7	5 50, 1	3.83.8	556.9	5,095	563.8	8295	670.6	574. o	-2	5808		9,785	591.2	5943	598.0	601,3	604. C	360.800	
Clock		1200 l	1205	0/6/	1215	1230	5861	1230	1235	OhO	345)	25%	1355	1300	1305	/310	1315	1330	1335	1330	1335	1340		1350	1355	1
Sampling	Time	(25	130	135	06/	145	50		091	165	01	175	08/	125	05/	195	₹0°¢	205	210	315	330	252	330	235	유	
Traverse	Number		0	~	7	\$	3		<i>5</i> 0	2	0				~		=======================================	N	<u>_s</u>		œ\$,	2	9)		4	- Institute of the second

 $\Delta V_{\rm III} = I_{\rm A} I_{\rm A$ To all and

Tm = Q

Plant	AK Mido	letown		Dram Mo. A	onlo Carb - 2
Date 🥱 /	10/16	Commis Dan M	+58-2		
Sample L	ocation Cor	Sample BOX NO. PICK BF/RK	100000	Filter No.	030014.0110
Train Pre	parer	FIRK	Samp	le Head No	NA 3H-10
Sample R	ecovery Person	BF/RK	Ba	arometer No	Tusc. com
Comment	s <i>c</i>	BF/RK PARB		Balance No.	FB-2
Front Hal	<u>f</u>				
Filter		8-2			
Description	n of Filter	blaci	k		
Samples S	tored and Locke	d			
Back Half/ Container	' <u>Moisture</u> No.	a/iA			,
	el Marked		Sealed _	NB	
Imp. No.	Contents	Initial Vol		Weight (gr	rams)
		(ml)	Initial	Final	Net
1			486.0	815.3	329,3
2	H20	100	773.5	765.7	-7.8
3 .	~		669.3	6741	4.8
4	Silica bel	250	982. A		
5 .		200	700.0	1076,9	34,7
6					
T	otal	<u> </u>			
			1		2// 0

Description of Impinger Catch: Clear

JOF

FIELD DATA SHEET

Rage (of 2

Sample Type:

Operator:
Ps: -'q CO₂: 3 Probe Length/Type:

Stack Diameter:

Pretest Leak Rate: (60) of (0) in.Hg. Pretest Leak Check: Pitot: 10 Orsat:

Run Number: C-CAR6-3 Date:

Sampling Location:

Plant:

02: 15 6'6L Pitot#: 76-151

Orsat: 1.005 AH@: Nozzle ID: '500 Thermocouple #: Filter #: Un forch cfm @__ Post-Test Leak Check: Pitot: Post-Test Leak Rate: Assumed Bws: 10 Meter Box #:

										· ·			,	 ,	,		-				_		_				
Pump	(in. Hg)		4	4	ý	\$	5	5	h	S	5	5	5	5	5	5	5	77	5	5	. 5	5	5	780	Ś	W	
Dry Gas Meter Temp. Tm	Outlet		$\mathcal{C}_{\mathcal{O}}$	64	64	59	Œ	65	99	19	29	83	63	11	12	56	hĹ	75	152	76	77	77	78	78	78	78	ı
Dry Gas M	Inlet		62	64	B	. 99	68	89	70	, /	<i>5</i> 2	75	77	. 08	Ø	48	26	84	49	. h8	99,	98	98	98	87	87	
Aux.	Temp.		38	38	C);	15	34	34	35	38	1,5	Z.	33	33	34	35	35	35	35	98	3.7	3.7	37	37	34	38	$\overline{Tm} =$
Îmbinger	Temp. T		65	65	65	95	119	19	87	6/7	b h	15	\mathcal{S}	53	53	45	56	95	57	95	88	58	88	59	59	Śά	
Temperature EF	Filter		Se	267	264	254	264	205	1.98	120	19C	263	264	264	NOC.	396	365	261	363	265	49E	h9C		h9C	191	363	
Temper	Probe		260	205	263	265	266	266	263	596	CH	764	Sis	264	12 M	19C	89C	265	198	263	198	99C	365	764	300	366	
Stack	Temp (Ts)		350	345	350	ZSE	152	258	255	. 195	198	267	373	, ChE	345	158	CSE.	350	8hC	358	195	4 98	370	115.	OLS)64 १	
E	Actual		<i>J</i> :)	1:4	67	1.4	4.1	41	1.4	43	b ./	h!/	17.1	5 ,	አ' ነ	1.1	3 -	4.1	ħl	h }	4.4	<i>J</i> r)	<u>1.1</u>	þ:\	h'1	7.)	\overline{Ts}
ΗV	Desired		7	1.4	15	4.1	14	4.1	4.1	T	7	1.4	7	4.1	- T	h-1	h-)	4.)	h' l	7.	h.1		7.7	7.	h')	h.)	$=\overline{M\Delta}$
Velocity	Head		70,	40.	,0,	40,	40.	40,	40,	₩O.	40.	40.	50.	40,	10,	40'	70,	Ź	ō	8	70	μοή	8	20,	E	₩.	$\dot{q} = d \nabla / \dot{q}$
Gas Meter	Reading	68.340	9119	6/4.9	6/8.3	G21.5	624.8	6.88.3		634.9	H. 869	641.7	645.1	648.4	8.159	655.1	658.4	8,199	665.1	668.8	671.9	675.2	678.5	6.199	645.4	688.7	\frac{1}{\sqrt{1}}
Clock	arm .	ds5	000/	505	10/0	1015	aro/	68B)	1030	1035		١.	1650	5501	00//	50//	0)))	1115	1/20	501	130	1135	 	5611	1/50	1156	$\Delta Vm =$
Sampling	Time	0	N	0)	(5)	20	25	30	3%	27	45	3	55	99	59	70	76	30	54	90	56	00)	301	110	<u>=</u>	120	
Traverse	Number	0		Co	~	h	2	9		4	5	01	===	, C	-	2	3	5-	2	٥	-	6.0	5	0	=		

Run Number: C-CARR-3 Date: 9-14-16 Pretest Leak Rate: Jol cfm @ 10 in.Hg. Pretest Leak Check: Pitot: 15 Orsat: Combuston Stack Sampling Location: Plant:

Operator:
Ps: Sample Type:

CO₂: 3 U₂: ... Probe Length/Type: 6' 6L Pitot#: 76-15/ Stack Diameter:

FIELD DATA SHEET

-536 Thermocouple #: 76-159 Meter Box #: 2 Y: 1-005 AH@: 1687
Post-Test Leak Rate: 1001 cfm @ 3 in.Hg.
Post-Test Leak Check: Pitot: 1000 Orsat: 1000 Assumed Bws: O Filter #: Lintand Q2 Nozzle ID:

		,, <u>,</u>																						<u> </u>		
Tump Vacuum	(in. Hg)	7	ኣ	٨	η,	N	لم	ک	'n	5	5	5	5	S	5	5	5	8	5	٠.	5	5	7	Ŋ	R	F.
ster Temp. n	Outlet	8/	8/	81	83	43	80	Q S	<u>Ri</u>	83	83	34	63	48	84	89	38	35	58	85	38	78	36	25	93	
Dry Gas Meter Temp. Tm	Inlet	88	89	89	88	86	81	, 06	90	06	90	. 16	16	16	. /2	91	dı	21	, E	93	26	63	a	93	43	/ A =
Aux.	Temp.	8h	dΙ	39	37	37	34	39	35	35	35	35	35	34	35	35	36	36	32	36	36	35	35	35	38	\overline{Tm}
Impinger	Temp. T	B	Ø\$	é	\mathcal{S}	5%	24	53	5,3	53	53	54	52	56	52	57	R	58	54	58	58	57	27	57	5.4	
ture BF	Filter	363	263	264	25	75%	264	265	26)	204	365	590	(9C	198	265	261	12C	203	59E	264	263	264	26)	265	H	
Temperature EF	Probe	306	764	264	265	200	265	M	263	364	265	196	195	19C	260	21	206	THE	265	260	EM.	262	1961	Les	365	
Stack	Temp (Ts)	352	352	353	355	355	351	360 "	365	365	365	. BLE	363	346	348	349	354	356	. 958	353	358	359	360	361	267	= 357
H	Actual	H1	1.4	1.4	1.4	h-)	þ-)	1.	7.	63	7.	4.7	17.1	67	71	1.4	1.1	4.	57	1.4	<i>H</i>)	h.)	ļ./	7	4.1	$ \mu T_{S^{*}}$
HΔ	Desired	f:/	1.4	67	6.1	f. 4	h)	4-1	h-1	1.4	h'}	h'1	b. 1	1, 4	h.!	h'/	h',	h l	h:)	13.1		1,4	þ.)	þ.j	h -1	$\overline{AH} = \overline{AH}$
Velocity	Head	20.	40,	ho.	40'	ho,	40,	403	40'	,0%	90,	40.	3,00	20	ho.	40.	40,	40)	40.	J.O.	-35	l _o ,	₽ Ø:	B	-g	$\mathcal{L}_{\lambda} = d\Delta \sqrt{\lambda}$
Gas Meter	Reading	1.63	645.6	619.1	702.5	206.0	769.4	712.7	716.3	2/9.8	723.2	9.31/	730.0	733.4	737.1	740.B	744.2	747.2	750.7	753.8	1872	%o.6	1 👡 🗁	767.5	120.961	162.621
Clock		1200	1305	0161	1315	1330	1325	1330	5801	0421	1345	050	355	1300	1305	(310	1315	020	3881	1330	1335	1340	1346	1350	ļ	∆Vm=_
Sampling	Time	126	130	13%	140	1/15	(50	1551	09/	165	(70	175	180	123	06/	195	200	305	210	1.80 pe 1.80	300	325	230	235	ે ક	
Traverse	Number	/	Co	3	h	1	e	7	8	3	0)	15	10	,	Ce	2	,,,,,	~	9	-	EA.	5	0)		Co	

ARON- OH

Company of the

Environmental Quality Management, Inc.

Description of Impinger Catch:

SAMPLE RECOVERY DATA

Plant AL	Steel-Mi	Letown Sample Box No.14. Systema		Run No. C	CARB-3
Date 9/1	4/16	Sample Box No./-/-	<u>sB</u> -2	Job No. 3	1674.0172
Sample Loc	cation Coul	ustion		Filter No4	2m+2
ram Prepa		76	sample	Head No. 34 /	6
Sample Rec	covery Person	BF/PK	Baro	ometer No	TWC : Con
Comments	Carp 7	rain	Ba	alance No	FB-2
Front Half		·			
Acetone		Liquid			
Container 1	No. C-CARB-3	Level Marked	Sealed		
		•			
Filter					•
Container 1	Vo. <u>C-CA</u>	213-3	Sealed		
Description	of Filter	blac	k		
					Ì
Samples St	ored and Locke	ed			
Back Half/	Maisture				
	Vo.	NA			
Container					
Liquid Lev	el Marked	NA	Sealed	NA	,
1					
		Initial Vol		Weight (gr	ams)
Imp. No.	Contents	(ml)	Initial	Final	Net
1	~0~	-0-	487,2	867.8	380.6
2	100	190	771.9	767.1	-4.8
3	= 0-	-0-	670.9	676,0	5.1
4	Silimber	250	9658	1001.8	36.0
5	Jell and leave	1-27 V	<u> </u>		
6					
	rotal				416.9

Clear



TRAVERSE POINT LOCATION FOR CIRCULAR DUCTS

Plant: Date: Sampling Location: Dishin, Bushon = Stack, 1-5 Inside of Far Wall to Outside of Nipple: Inside of Near Wall to Outside of Nipple (Nipple Length): Stack I.D.: 35/2	
Distance Downstream from Flow Disturbance (Distance B):	(fan
300 Inches/Stack I.D. = 5 dd	. \ /
Distance Upstream from Flow Disturbance (Distance A):	
$\frac{72}{100}$ Inches/Stack I.D. = $\frac{20}{100}$ dd	
Calculated By: Dors Allu	Schematic of
	Sampling Location

Traverse Point Number	Fraction of Length	Length (inches)	Product of Columns 2 & 3 (To nearest 1/8")	Nipple Length (inches)	Traverse Point Location (Sum of Col. 4 & 5)
	0.044	35.5	1.56	6"	7.6
2	0.146		5-2	1	11,2
3	0.296		10-5		16,5
4	0.704		25.0		31, 0
5	0.754		30-3		36.3
6	0956	V	33.9	A	39, 9
		- di			м

CEM CALIBRATION DATA SHEET

Company: 4 k steel
Location: Pushum
Project No.: 50071, 0

ALSteel Middletown Postury Baghasse 50074,0172

Operator: Date:

Down Wen Ben Fern

	fil.			-	Т		_		Т		Т	-1	ſ	-T	T	T	Т		1			1	
Cylinder No	Cymner 140.								r 11					113	=		£1						
6	%Bias					,										57							
Post Test Run 3 Response	%Drift	13:20	40.0		11.01	31.66	0.08		11.20	21.86	12,0		183.9									1.	
Pos	%/wdd	Time:												-									
7	%Bias								•														
Post Test Run 2 Response	%Drift	2.26			7															2			
Pos]	%/mdd	_	6.97		10.95	21.77	0.1		10.57	31.88	0,6		184.5										
	%Bias									Ps													5
st Test Run 1 Response	%Drift	32		4	1									Per.									
Post R	%/waa	11:	0,33		80'11	21,77	6.18	11110	一十七名の	21,97	-1.8		186.9										
ation	System		0.277		010.11	21.841	0.206		180.11	21.798	87.0-		190.25	452.75							-		
Calibration Response	Direct	Time:	0.134 6		11.060	21.991	0.100		11.070	185.12	00.1		188.47					**					
Cal Gas	Conc		0	-(1.01		0	١	1 23	2		1	190,9	8.HSh									
Cal	Car	3	Zero	Low	Mid	High	Zero	Low	Mid		Zero	Low	Mid	High	Zero	Low	Mid	High					
Pollutant/	Range/	Inst. ID		2				S,				9									Averages)	

EQM Environmental Quality Management, Inc.

CEM CALIBRATION DATA SHEET

final cal Operator: Date: Company: Location: Project No.:

							ü								7,000			S.					
Colling on Mo	Cymner No.		6.23		11.04	21.65	5.6		10,89	21.69	-30	1000	181.5							×		· ·	
3	%Bias					8:																	
Post Test Run 3 Response	%Drift	111																					
Post	%/mdd	Time: /	0.35		10.95	21.70	o (e	c	11.01	21.56	-2.8		181.3					D.					
7	%Bias								2				8										
Post Test Run 2 Response	%Drift	1602																					
Pos	%/wdd	Time:	12.0		10.99	31.89	18.0		10.97	21,74	-1.8		182.9						e				
=	%Bias									166													
Post Test Run 1 Response	%Drift	1502	ČI.																				
Pos	%/wdd		10	,	11.02	21.72	0.37		10,99	1818	-2.0		183.9										
ation	System	20		5 e 3				- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1															
Calibration Response	Direct	Time:							0											===			
Cal Gas	Conc.		0	1	11.02	21.89	0	1	11.23	31.94	0		190.9	8756									
	Gas		Zero	Low	Mid	High	Zero	Low	Mid		Zero	Low	Mid	High	Zero	Low	Mid	High					
Pollutant/	Range/	Inst. ID		,	2				Co,	1		(3	I	= c.						Averages)	

Frd @ 1502

CEM CALIBRATION DATA SHEET

ALShel1	Buchone	50074.05
Company:	Location:	Project No.:

Operator: Date:

AWer 8/34/16

7	Cylinder No.			-																			-
;			64		i i										11								
ın 3	%Bias									H			i)								25 JR		-
Post Test Run 3 Response	%Drift	81	6	,												c							
Pos	%/wdd	Time:								ST.													
2	%Bias																	ď					
Post Test Run 2 Response	%Drift	35	=3			- 1		1													н		
Post	%/wdd	1	0.356			21.726	780.0	57	10.893		50,00		189.36										
1	%Bias					5 m Jul (1946)	- 78			-												ď	
Post Test Run 1 Response	%Drift																					3	
Po	%/wdd	Time: /3	6			21.6	ر کی و		10,7		-1.5		184.6						20-347	0.309	50	1	_
ation onse	System		5.237	,	11.03	31.683	506.0	1	[0.473	21,85	1.00		86.88]	454.47		2.85			07	C02			
Calibration Response	Direct	Time:	0.310	1	11.07-1		0.331)	11.0%	36.12	(,6)	ı	193-39	461.57						do			
Cal Gas	Conc.		0	J	11.07	b8-16	၁	1	11-23	175-18	٥)	6051	154.8									
[]	Gas		Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High 454.8	Zero	Low	Mid	High					
Pollutant/	Range/	Inst. ID	2	20	<u>I</u>		\(\frac{1}{2}\)	3		L		B				ı	I (A	2			Averages		-

EQM Environmental Quality Management, Inc.

CEM CALIBRATION DATA SHEET

			Or no builton	Cyminei 140.														- 5						Œ		=	5	
	•		8	%Bias													×											
8	n n		Post Test Run 3 Response	%Drift								ie i				a												
1264		12 2	Post F	%/wdd	Time:															,								
Janzey 9/6/16		7	2	%Bias	-											28					0				α.		=	
	Jak she M	STATE OF THE STATE	Post Test Run 2 Response	%Drift	504-1525-171	20.0-			22045	250.0		11.264		15.0		184.81	2					20.783	0.30 p	23.36				
Operator: Date:		7-	Pos SYSTEM	%/wdd	Time:	0.024			21927	600		11.163		-0.43		184.57											279	8
			1	%Bias	1434																						CAL)
	*	ON BUSTION	Post Test Run 1 Response	%Drift	1 - 700!	17,000	81	5	21.95L	0.134		11.242		0.04		18875		=				15.04	3.059	59.71			_	
٧ ₂		000	Po	%/wdd	Time: 100	0.119			21.829	0.258		0.916		20.72		184.22	11										PANSON 1300	Lesi
Middletaun			ation	System		0,075		10.937	21.769	0.158	1	11.083	21.720	0.11		189.87	449.74					70	9	00				
-	,0172		Calibration Response	Direct	Time:	0.181		11.199		2520		11.224	22.175	0.71		189.75	453.68	14										
AKStee (50074		Cal Gas	Conc.		Q	1	11.02	21.89	0	1	[(.33	31.94	.0	ı	60051	_		8									
	1]		Cal	Gas		Zero	Low	Mid	High	Zero	Low) piM	High	Zero	Low	Mid	High	Zero	Low	Mid	High						-	
Company:	Project No.:		Pollutant/	Range/	Inst. ID		70			(2)	3	3	2	92	3		*							Averages		*		

CEM CALIBRATION DATA SHEET

g.		Cymaer No.								-22						3				12		33		
	es e	%Bias												***										
le Controlor	Post Test Run-3 Response	%Drift	1												152									
Wer	Pos	%	Time:														8			10				4
Darz Aller 9/7/16	7	%Bias	743																					
5	Post Test Run 2 Response		The same					5																
Operator: Date: P.S.W.	Po	%/mdd	Time: 1051 -	0.091			23070	0.083		16,(1)		1.36	,	186.57						30.765	0,395	27.59	i (
T Í Isa	+	%Bias	1035															>						
(3/5/2	Post Test Run 1 Response	%Drift	0835-10																					
9	Pa	%/wdd	Time:	-0,063			3/1860	0,045		10.714		3.68		186,11		5				16.19	3.597	6807		
modalletoun fushing	ntion	System	^	0.088		6.907	31.972	0.164		1-60.	102.10	35.6		188.64	450,25					S	707	3		
-5	Calibration Response	Direct	Time: 800	0.067	a	11.198 10.907	23,303 3	0.150		1.342	3.3.384 G	j Š	١		455.00 1	20								
AK Shelloway	Cal Gas	Conc.		0	1	20.11	21,89	0	١	11,33	31.94		ſ											
	Cal	Gas		Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High					
Company: Location: Project No.:	Pollutant/	Range/	IIIST: ID		A)	S		,	73			200	3									Averages		

EQM Environmental Quality Management, Inc.

CEM CALIBRATION DATA SHEET

Au steel Mich	Canbus trun	SUT 4.0
Company:	Location:	Project No.:

dletour stack

Operator: Date:

	Cylinder 140.												×			II .		1					
3	%Bias		(8)				-			>												71	
Post Test Run 3 Response	%Drift		6																			3:	
Pos	%/wdd	Time:		29															, T.			=	
2	%Bias				0			4											34				
Post Test Run 2 Response	%Drift	1355-1655				11				2.1													
Post F	%/wdd	Time: 13;	20.07			21873	2810		11,014		1.67		187.59						13,902	3.731	83.12		
I	%Bias	345	Ĵ			4				,			1/4							e.		0	
st Test Run 1 Response	%Drift	35-1	100						. H				38						5				
Post R	%/wdd	Time: 0%	200			21.918	6.199		10,979		9.54	S e	188,12						13.586	3,913	85,19	•	
ation	System	S	0.074)	586.01		h31-0)	11,117	21.869	3,3)	191.97	65/15/1			CC CC		07	3	3		
Calibration Response	Direct	00	-0.013	1	1.036	21.964	150.0	.)	11.035				191.77	458.47				200					
Cal Gas	Conc.		0	\	1.02	(bb-)2	0	١	11.33	1294		1	606										
Cal	Gas		Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High					
Pollutant/		Inst. 1D		20				· ල්	2)		3	3								-	Averages		

CEM CALIBRATION DATA SHEET

mpany:	cation:	oject No.:
Com	Loca	Proje

ALSteel Middletown purhing Bughouse 50074.0172

Operator: Date:

Down Allen

O'stlindon No	Cymines 140.																						
13	%Bias															8		2.5					
Post Test Run 3 Response	%Drift																					ř	
Pos	%/wdd	Time:														ð				0			
2	%Bias		4																				o
Post Test Run 2 Response	%Drift									20, 25													
Pos	%/wdd	Time:	285.0			21.70	0.30H		10.954		25.0		184, 44										
1	%Bias															E							
Post Test Run 1 Response	%Drift	350																				185	
Pos	%/wdd	-	0.3			717	1.0	-	11,0		0,9		186.0						20,677	0,316	30.55		
ation	System	0640	652.0	,	040-1	21.659	0.151	١	10.982	21.761	29.92	ì	50,081	451.39					00	COL	Co		
Calibration Response	Direct	Time: O(0.119	1	10-908		0.055 0	1	11.098	22 046	0.4	(H-381	453.31									
Cal Gas	Conc.		0	1	70-11	31.89	0		11.33	21.94	0	1	9.06	4.54-8						*			
	Gas		Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High)				
Pollutant/	Range/	Inst. ID		20				COL				ಲಿ									Averages		

CEM CALIBRATION DATA SHEET

		= (Cylinder No.	81											10			2		-			=		
olde		n 3	%Bias			2										7									
Jan 14		Post Test Run 3 Response	%Drift			i.					,				V					8					
en/k	7	Po	%/wdd	Time:					i le				, i												
Ben Fein/Ron Kolde	post test	12	%Bias	741	16				4		2		50		16					14					
1 1	po	Post Test Run 2 Response	%Drift		-0.046			31.910	0,072		89601	31910	7,92		192.91						8	1	7		
Operator: Date:	SYSTEM	Pos	%/wdd		-0,062		10.745	21.932	450'0		11.085	22.063	6.26		193.18	455.41				-	20,728	0.25	37.5	v	
i r	ľ	1	%Bias	305								ilomes i					0						16		
7		Post Test Run 1 Response	%Drift	-	0.098			21.879	0.018		3.453 10.946		7.30		0/93.01										
ing BA			%/wdd	Time: /	8.025-0.098		14.778		4		3.453				4.10						14.718	3.452	01.10		
Modelletan	Sursegien	ation	System	006	0.085	11008	10.95	22.179	0.146	9	11.218	7.75°	5.26		192.03	455.14									
- 5	200/10/05	Calibration Response	Direct	Time:	-0.009		10.95	32.03	0.064		11.06	23.12			192.07	454,16									
AVSteel Combastra	v S	Cal Gas	Conc.		0	(1195	31.89	0	١	11.33	71-94	0	(193.9	434-8									
1. 1.	l	Cal	Gas		Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	02	200	3		
Company: Location:	Project No.:	Pollutant/	Kange/	mst. m	2005	つな				3				}	-						31	£ (0)	Averages	ı	

WI Environmental Quality Management, Inc.

CEM CALIBRATION DATA SHEET

Project No.: Company: Location:

AL STEEL MEDICETOWN PUSHENCE BARMUSE 050074.073

Operator: Date:

1972

0

Cylinder No. %Bias Post Test Run 3 Response %Drift %/wdd Time: %Bias Post Test Run 2 Response %Drift %/wdd Time: %Bias Post Test Run 1 Time: 1057 -0402 Response %Drift %/wdd 190.54 10,967 22.003 0.079 000 0000 193.21 System 220.0-11.139 10.54 -0.00 J 22.111 Calibration Response Direct Time: Cal Gas Conc. 8 650 190.9 21.89 3 11.03 71.94 0 High Mid High Mid Mid High Zero Low Zero Low Mid High Zero Low Zero Low 0 60, 8 Cal Gas Pollutant/ Range/ Inst. ID Averages 9 07

₽		Cymaer No.												ii ii					±					
RUN	n 3	%Bias									7. V	10								-				9
Pusting Rus	Post Test Run 3 Response	%Drift	1339-																	1		x		
	Pc	%/wdd	Time:	-0.061			23.011	0.082)D	11,066		1.88		192.07	*		12	2		20.74	0.341	30.76		
8F 9/3/16	12	%Bias													1							3(3)		
5 548	Post Test Run 2 Response	%Drift	3/0		383										11				22					
Operator: Date: RSHIN	Po.	%	Time: /	0.232		10.968	21.976	0.032		11,017	23.062	1.07		191.50	457.88	=								
3	_	%Bias	159											,										
IN BATEMANSE TON ROW		%Drift	MSS- 10		=		G.										1.							4.
MISDICTOWN BATCHESSE K/ PUSHTING BATCHESSE COMBUSTION ROW	Pos	%	Time:	-0.129		10,911	21.936	0,045		11,074	22-119	(,00		190.45				81		14387	3,59	69.85	d	
Mis	tion	stem	-			10.953	21.925	0,172 6		10.994	22.015	1.02		18400	456.96									S 8
7/20	Calibration Response	Direct	Time: 9/5	-0.095 0		11.003 /	32067 à	2 810.0-		11.132 1	22.099 2	-1.31		188881	456.82 0									
ONBUSTEN OSTOTA	Cal Gas			9		11.02	21.87	0		11.33	21.74 3	0		1907 1901	454.8 4									
7	Cal			Zero	Low		High 2	Zero	Low	Mid	High 2	Zero	Low	Mid (High 6	Zero	Low	Mid	High	02	(C)	5		
Company: Location: Project No.:	Pollutant/	Kange/	THIST: THE	(0		w 227		3	, i	la la		00								-	Averages		

AK	à	0
Company:	Location:	Project No.:

AK MIDDOLETOWN PUSHING BACHOUSE OSDOTH, OITS

Operator: Date:

Chis Jayzon

Pollutant/			Calil	Calibration	Pc	Post Test Run 1	1	Post	Post Test Run 2		Post	Post Test Run 3	3	
Range/	Cal	Cal Gas	Kes	Kesponse	5	Kesponse		-	ا ا	$^{+}$		Kesponse		Cylinder No.
Inct III	Gas	Conc.	Direct	System	%/wdd	%Drift	%Bias	bbm/%	rift	%Bias	0/	%Drift	%Blas	•
IIISL. ID		22	Time:		Time: 1000	0000 -0		Time: 020 8-	8-0448		Time:			
	Zero	0		20.0-	0,010			20.000						
	Low	l												
0	Mid	11.02												
	High	21.89		2010	22.023			22027						
	Zero	0		22000	0.116			1700						
	Low	1												
E	Mid	11.33		1(.002	10.969			181.01						
	High	21.94					g .					u		
	Zero			57.7	1.67			11.1						
,	Low	1												
3	Mid	961		192.02	61.19			130.64						0
	High	454.8											81	
	Zero													
	Low						=							
	Mid													
	High													
	ó											2	н	
	15													
Averages	00						F.							S.
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	1000 O	Cylinder No.	8															1						
	3	%Bias	1738	=												5				0.00	¥			9
PUSHIWE RUN	Post Test Run 3 Response	%Drift	1313 -1																					
10	Pos	%/mdd	Time:	1007			J3.017	0,070		18011	,	3,07		193,08				eu		20.77	0.378	34.38		5
Ben Fern 9/14/16 EN CAL	1.2	%Bias																						
	Post Test Run 2	%Drift	1300				***		0															
Operator: Date: PusHzw	Po	%/wdd	Time:	0.006		11.143	22.185	0.063		11.199	22.260	191			457.30									
Row 3	_	%Bias	1355	d			£		0		*												jii	
ghouse comparation	Post Test Run 1	%Drift	955-							6.	٠				39			-						
Ba	Pos	%/wdd	Time:	-0.139			21,957	0.010		11.003		2.02		190.33	6					14.076	3,638	76.08		
WN POSKING	ntion	System	12			1.015	21.749	0.032		10.849	32.193	3.12		190.33									٠	
ldle to Stac	Calibration	Direct		-0.018			22.138	0.033		11.170				190.67	45730									
AK Mis Combushan	- 7	Cal Gas		0	1	11.02	21.84	0	1	11.33	21.94	0	\	190.0	87.5	N								
	7	Gas		Zero	Low	Mid ,	High	Zero	Low	Mid ,	High	Zero	Low	Mid	High	Zero	Low	Mid	High	Ó	(0)	Co		
Company: Location: Project No.:	Pollutant/	Range/	Inst. ID		ç	2			2	3	į.		0	9			34.		VS.			Averages		

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Company:	Location:	Project No.:

AL MIBSLETDUN PUSHING BAGHOUSE OSOOTGOITE

Operator: Date:

C Janzer 9/11-12/18

.)	·															T					
=	Cymager No.								12											33 -	
13	%Bias												(4			ā					
Post Test Run 3 Response	%Drift																	G .			
Pos	%/wdd	Time:																		2	
7	%Bias												0								
Post Test Run 2 Response	%Drift																				
Posi	%/mdd	Time:	9	24													5				
-	%Bias									*	3.			9				a a			
Post Test Run 1 Response	%Drift	8170-									19										
Pos	%/wdd	Time:	0.019	30		22.227	0.134		11.197		2.13		66681								
ation	System		-0.079	11		75177	-0,035	g	11.145		2.18		188.37								2
Calibration Response	Direct	Time:	*			wan.ki							¥			12					
Cal Gas	Conc.	-	0		10.01	21.89	0		11.23	74.57	0		196	454.8	=						
	Gas		Zero	Low	Mid	High	Zero	Low	Mid	High 7	Zero	Low	Mid	High	Zero	Low	Mid	High			
Pollutant/	Range/	IIISL ID		0,)	100		00	7			0))						1	Averages	

		N and Strike	Cymnaer 140.		2									5.	(1)						, t (3)				
	209	n 3	%Bias	-1738								iñ M			ă.										2
	Pushing Aun	Post Test Kun 3 Response	4	1307 -	~			20.7303039	2		11.028		- II		The state of the s						0		150		
In Fern		P	%/wdd	Time:	-0093			30.73	0.04	100	922		3.76		192.69						20.730	0.300	33,69		
Bengumin Fern 9/15/16	n Car	n 2	%Bias							73														1 2	
	Pushing System Cal	Post Test Run 2 Response	%Drift	1251					8												-			6	
Operator: Date:	Pushin	Po	%/wdd	Time:	h80.0-		10,982	22.045	0.007		11.071	22.176	2.40		142,46	456.75								^	
TT	15-	11	%Bias	1345							2	•													
3	stion Run	Post Test Run 1 Response	%Drift	1-5460							(1														5
Pushing Baghwise	Combistion	Po	%/mdd	Time:	-0,139			22.005	0,022		11.093		32		190.79						12:464	3.432	25.56	3	
	2 Combashou	ation	System	0	-0.022		11,157	21.963	0.015		(0.990	23,386	1.90)	325 20	189.26	454.82		5							
AK Middle found	070,4700 0	Calibration Response	Direct	Time: 0900	0.036	5	C00/1		0.071			22.193	`		191.07	456.27									
AK M Combushan	S,	Cal Gas	Conc.		0	}	11.03	21.84	0	ì	11.23	71.94	0	1	061	454.8									
		Cal	Gas		Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	Zero	Low	Mid	High	E.	Cos	200		
Company: Location:	Project No.:	Pollutant/	Kange/	Inst. ID		G	2			60	2				2		ıtı			lji.			Averages	24	

		AH(a): 1.741	in.Hg:	rsat:	Pump	(in. Hg)																										
	Thermocouple #: Filter #:		й (Ø)	0	Dry Gas Meter Temp. Tm	Outlet																		, di		-						1
Ì	Thermoc Filter #:	Y. Y. (5)		eck: Pitot:	Dry Gas M	Inlet																				- Annual Control of the Control of t						, , <u> </u>
,): Bws: /	Meter Box #: ** Y: (5/5	Post-Test Leak Rate: cf	Leak Che	Aux.	Temp.																				,						$\overline{Tm} =$
	Nozzle ID: Assumed Bws:	Meter Bo	Post-Test	Post-Test	Impinger	Temp. F				********												12000										
	[Filter									, 7-					-												
,	7 9		#: ##	١	Temperature EF	Probe																										
	Operator: <u> </u>			ч K:	Stack	Lemp (1s)		<u>~</u>	ğ	125	3	(22)	127	123	(23	(23	(25)	(23	120			Andry systems to the state of t										{el=
`	Ps			: 39.54		Actual				, t		,										A CONTRACTOR OF THE PROPERTY O										$=\overline{SI}$
	pe: 30.11		Probe Length/Type:	Stack Diameter:	Ч	Desired																								-		$= \underline{HV} =$
- { •	Sample 1ype: Pbar:	CO_2 :	Prob	Stac	Velocity	неап		8,8	29	2.9	2.9	30	30	29	3.2	ių L	3.2	3.2	,) š													35(1) = 1
	Stack	6129116	in.Hg.	Orsat:	. Gas Meter	eading									:							-										$=\underline{d\nabla}$
est.	1		E.E.	4	Clock G														-													ΔVm =
اد مدر در در در در در در در در در در در در د	tion: Bakers	/ 2 2 2 2 3	te:	eck: Pit		.		-								-			:													ΔΛ
	g Locat	nber: 🧚	eak Ra	eak Ch	Sampling	TI.	0																									· .
<i>j</i>	Plant: Samplin	Run Number:	Pretest Leak Rate:	Pretest Leak Check: Pitot:	Traverse Point	Number	O		C	n	Z	7	~0		2	CV.	T	5	9	*	2	8	7	5	- 2	2	\sim	7	72	્	نصور	

FIELD DATA SHEET

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Pump Vacuum (in. Hg) Y: (00 AH@: 179 ofin @ Orsat: Thermocouple #: Dry Gas Meter Temp. Outlet Filter #: Post-Test Leak Rate: of Post-Test Leak Check: Pitot: Inlet Tm =Meter Box #: Assumed Bws: Aux. Temp. Nozzle ID: Impinger Temp. °F Filter Temperature EF Probe Pitot#: K: Stack Temp (Ts) 76 35 3 6 ~ 8 2 (30 13 K K 12 75/ 26 127 <u>9</u> 15 灭 (02 \cong 8 1 Ω Ω 121 Stack Diameter: 35.5" Ts =Actual Probe Length/Type: 50.00 ΔĦ $= H \Delta$ Desired Sample Type: CO₂: Velocity Head 9 \tilde{x} 8 29 びば 45 <u>ر</u> م 3 Q30 20 0 30 3. 2.9 08 Run Number: Flade Date: 9/12/16 Sampling Location: Beghouse Stack Pretest Leak Rate: cfm @ in.Hg. Pretest Leak Check: Pitot: /t Orsat: Gas Meter Reading Plant: AK Middletown $\Delta V m =$ Clock Sampling Time Traverse Point Number \mathcal{M} 20 \mathbf{I} 12 2 12 S

FIELD DATA SHEET

Thermocouple #:	:: Filter #:		k Rate: cfm @ in.Hg.	Post-Test Leak Check: Pitot: Orsat:
Nozzle ID:	Assumed Bws:	Meter Box #:	Post-Test Leak Rate:	Post-Test Lea
Type: Operator:	Pbar: Ps: - (.)	02:	Probe Length/Type: Pitot#:	
Plant: AK Middle found Sample T	, .	Run Number: Flow Date: 9/12-13/16	in (a) in.Hg.	ı

.e:	Operator: CI	Nozzle ID:	Thermocouple #:
	Ps:	Assumed Bws: Fi	Filter #:
	O_2 :	Meter Box #:	Y : $\triangle H(\widehat{\omega})$:
e Length/Type:	Pitot#:	Post-Test Leak Rate:	cfm @ in.Hg.
Diameter:	K:	Post-Test Leak Check: Pitot:	k: Pitot: Orsat:
	•		

ר וכוכור ד	TICICAL DOGN CHOON TING	. 1001.						-			***************************************
Traverse	Sampling	Clock	Gas Meter	Velocity	ΉV	Stack	Temperature EF		Dry Gas Meter Temp. Tm	er Temp.	Pump Vacuum
Number	Time	٠	Reading	Head	Desired	Actual Temp (Ts)	Probe Filter	Temp. Temp.	Inlet	Outlet	(in. Hg)
	777	2222		3.1		96					
7		2234		3.0		44	17.7			į	
2		2245		% 0		99				_	
1		9057		3.		L. 6					
5		2325		3.2		47					
و		23 43		3.1		88			,		
		4000		3.1		76					
			-								
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		1	l] 8					

 $\Delta V m =$

FIELD DATA SHEET

Nozzle ID: Thermocouple #:	Assumed Bws: Filter #:	Meter Box #: Y: AH@:	Post-Test Leak Rate: cfm @ in.Hg.	Post-Test Leak Check: Pitot: Orsat:	
Sample Type: Operator:	급 '	CO_2 : O_2 :		Stack Diameter: K:	,
Plant: At Middlebun	Sampling Location: Bayhare Stark 1	Run Number: 0 Date: 1/13/16	Pretest Leak Rate: cfm @ in.Hg.	Pretest Leak Check: Pitot: Orsat:	

Thermocouple #:	Filter #:	Y: AH@:	cfm @in.Hg.	:: Pitot: Orsat:
Nozzle ID:	Assumed Bws:	Meter Box #:	Post-Test Leak Rate:	Post-Test Leak Check: Pitot:

								[-	·».				1	
Pump Vacuum	(in. Hg)																					
Dry Gas Meter Temp. Tm	Outlet								-											-		
Dry Gas M T	Inlet																					
Aux.	Temp.						,															
Impinger	Temp. F																					
iture EF	Filter											****						_				
Temperature EF	Probe																					
Stack	Temp (Ts)	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	95.	107	101	වි	108	501	107	7/	601	6 <i>01</i>	108	105	001	103	Loj		,			
Ŧ	Actual																			,		
НΔ	Desired																		-			
Velocity	Head	3,7	3.9	3.7	3.7	3.7	8.8	3.9	3.7	3.7	×	ή. Ο .	3.7	3.9	:	3.8	37					
Gas Meter	Reading								•							,			- WANGER -			
Clock		2233	22.45	230 Y	2323	2345	2000	0200	Oo y i	8500	7110	ر د 3	0146	3r10	55.70	0309	0325					
Sampling	Time							1,1)		~)								
Traverse	Number																i i					

 $\overline{Tm} = \overline{$

 $\Delta Vm =$

	Plant: _	AK Middle	201	Date: <u>9/13/16</u>
				Struk Clock Time:
				Operators: £2
				Static Pressure, in.H ₂ O: -1, 3
	Moistur	e, %:	Molec	cular wt., Dry: Pitot Tube, Cp:
				Side 1: Side 2:
				Dry Bulb, °F: CO ₂ %
				ocouple # O ₂ %
	[Push#]			Pitot Leak Check: Positive Negative
	Traverse	Velocity		$Md = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times \%N_2)$
Ime	Point	Head	Stack	$Md=(0.44 \times) + (0.32 \times) + (0.28 \times)$
1035	Number	in. H ₂ O	Temp,°F 9€	Md=
1049	2	4.1	115	$Ms=Md\times \left(1-\frac{\%H_2O}{100}\right)+18\times \left(\frac{\%H_2O}{100}\right)$
1102	3	3.8	130	MS=Md×(1 100) + 10 × (100)
1116	ч	3.8	13/2	$Ms = \left($
1130	5	3.7	137	$\int MS = \left(\int X \left(1 - \frac{100}{100} \right) + 18 \times \left(\frac{100}{100} \right) \right)$
1141	6	3.8 3.7	135	
1158	7		<u> 133</u>	$\frac{Ms}{TS} = \text{°F} = \text{°}R(\text{°F} + 460)$
1217	8	3.6 3.5	130	SP SP
1236	9	3,5	137	13.6
1254	10	35	136	13 - 13 - 13 - 13 - 13 - 13 - 13 - 13 -
	12	3.6 3.6	<u>125</u> 130	$\sqrt{\Delta P} =$
14 29 1439	13	3.6	133	$V_{S} = 85.49 \times C_{p} \times \sqrt{\overline{\Delta P}} \times \sqrt{\frac{T_{S}(^{\circ}R)}{P_{S} \times M_{S}}}$
(H56	IH	3.6	1-28	Ps×Ms
1521	15	3.6	132	$Vs = 85.49 \times () \times () \times () \times ()$
1532	16	3.7	133	$\sqrt{VS} = 85.49 \times () \times () \times $
1550	17	3,5	135	Vs = ft/s
1605	18	3.5	132	$As = ft^2$
[620	19	3.5	140	$Qs = Vs \times As \times 60$
1641	20	35		$Q_S = \times \times 60$
1651	21	35 35 36 36	139	Qs = acfm
1700	22	3.6	138	
1729	23 24	35	132 135	$Qs_{std} = Qs \times 17.647 \times \frac{Ps}{Ts} \times \left(1 - \frac{\%H_2O}{100}\right)$
1721	24 25	3.5 3.5	128	$Qs_{std} = \times 17.647 \times - \times \left(1 - \frac{100}{100}\right)$
(730 *			U X	
				$Qs_{std} = dscfm$
			. 1	
	$\sqrt{\Delta P} = $	9053	Ts= \}\	
				-

Line

Plant: Ak Middletown	Date: 9/13/16
	2 Clock Time:
Run #: F (2~	Operators: EC
Barometric Pressure, in. Hg: 30. (5	Static Pressure, in H ₂ O:
	Dry: Pitot Tube, Cp:
	Side 2:
	b, °F: CO ₂ %
	. O ₂ %
[Pish #]	Pitot Leak Check: Positive Negative
	$14 \times \%CO_2$) + $(0.32 \times \%O_2)$ + $(0.28 \times \%N_2)$
Point Head Stack Md-(0.4)	$14 \times) + (0.32 \times) + (0.28 \times)$
Number in n ₂ O remp, r	1177)
3.5 90 Md=	/ %H ₂ O ₁ /%H ₂ O ₁
2 3.5 112 Ms=Md 3 2.9 125	$\times \left(1 - \frac{\% H_2 O}{100}\right) + 18 \times \left(\frac{\% H_2 O}{100}\right)$
3 2.9 125 4 3.0 132 No. (
Ч 3.0 132 5 3.8 139 мs=($\left) \times \left(1 - \frac{100}{100}\right) + 18 \times \left(\frac{100}{100}\right)$
5 2.8 139 Me=	(100)
Ms=	27 (27 162)
x 29 132 1	$^{\circ}F = ^{\circ}R(^{\circ}F + 460)$
9 $\frac{3}{2}$ Ps = Pb	$+\frac{SP}{13.6} = ($) $+{13.6}$
1° 2.8 136 Ps =	13.6 in. Hg
$\frac{1}{\sqrt{\Delta P}} = \frac{1}{\sqrt{\Delta P}}$	
12	
$V_{\rm S} = 85$	$49 \times \text{Cp} \times \sqrt{\Delta P} \times \sqrt{\frac{\text{Ts(°R)}}{\text{Ps} \times \text{Ms}}}$
, , , , , , , , , , , , , , , , , , ,	1
15	10 4) 4) 4
VS = 85	49 × () × () × \
17 Vs =	ft/s
	${\rm ft}^2$
0s = Vs	\times As \times 60
$\frac{20}{21}$ Qs =	× × 60
22 Qs =	acfm
$0s_{ctd} =$	$Qs \times 17.647 \times \frac{Ps}{Ts} \times \left(1 - \frac{\%H_2O}{100}\right)$
iz	$\begin{array}{c} \text{Ts} & 100 \\ \times 17.647 \times \phantom{00000000000000000000000000000000000$
$Qs_{std} = $	× 17.047 × ——— × (1 —— 100 —)
$Qs_{std} =$	3
	dscfm
21	uscim

121

122

124

 $Ts = I\hbar'$

123

3.7

<u>3.7</u> 3.7

1 9429

TME

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1038 1043

1104 1120

1137

1157

1216

1235

1254

1313

1875-

1424

1601

1522

1547

1636

1648

1.705

1722

1735

23

 $\sqrt{\Delta P} =$

GAS VELOCITY AND VOLUMETRIC FLOW RATE Midletum Plant: HK Date: 7 17 16 Sampling Location: Bayhows Fack | Clock Time: Run #: Flow Operators: W Barometric Pressure, in. Hg: 30.21 Static Pressure, in.H₂O: -1.3 Moisture, %: _____ Molecular wt., Dry: _____ Pitot Tube, Cp: _____ Stack Dimension, in. Diameter or Side 1: Side 2: Wet Bulb, °F: _____ Dry Bulb, °F: ____ CO₂ % _____ Pitot # _____ Thermocouple # _____ O_2 % _____ Pitot Leak Check: Positive _____ Negative Wih # Velocity Traverse $Md = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times \%N_2)$ Point Head -Stack $) + (0.32 \times) + (0.28 \times)$ $Md=(0.44 \times$ Number in. H₂O Temp,°F 4.0 Md = $Ms = Md \times \left(1 - \frac{\%H_2O}{100}\right) + 18 \times \left(\frac{\%H_2O}{100}\right)$ 95 3 $Ms = \left(\frac{1}{100} + 18 \times \left(\frac{1}{100} \right) \right)$ 96 5 102 104 6 3.7 7 107 $\overline{TS} =$ $^{\circ}F = ^{\circ}R(^{\circ}F + 460)$ 4 3.7 120 $Ps = Pb + \frac{SP}{13.6} = ($) + $\frac{13.6}{13.6}$ 7.5 3.6 119 10 3.5 122 11 95 **ን** ୬ 12 $Vs = 85.49 \times Cp \times \sqrt{\overline{\Delta P}} \times \sqrt{\frac{Ts(^{\circ}R)}{Ps \times Ms}}$ 7B 13 39 14 3.9 110 3.4 109 $Vs = 85.49 \times () \times () \times$ 106 16 ft/s Vs =17 3.7 11) 113 18 ft² 19 $0s = Vs \times As \times 60$ 3.8 10 0s =Х \times 60 3.8 21 22 3.7 Qs =acfm

 $Qs_{std} = Qs \times 17.647 \times \frac{Ps}{Ts} \times \left(1 - \frac{\%H_2U}{100}\right)$

 $Qs_{std} = dscfm$

 $Qs_{std} = \times 17.647 \times - - \times \left(1 - \frac{100}{100}\right)$

Plant: AK Midals	etown	Date: _ 9/14/16
Sampling Location: P. B	aghouse #2	Clock Time:
·	J	Operators: 6D
Barometric Pressure, in. Hg		Static Pressure, in.H ₂ O:
Moisture, %:	Molecular wt., Dry:	Pitot Tube, Cp: 0.84
Stack Dimension, in. Diame	ter or Side 1: <u>35.5"</u>	Side 2:
Wet Bulb, °F:	Dry Bulb, °F:	CO ₂ %
Pitot# <u>T 4-16</u>	Thermocouple #	/6 O ₂ %

	Stack D	imension, in. D	Diameter or S	Side 1: 35.5" Side 2:
				Dry Bulb, °F: CO ₂ %
				10couple # 74-16 O ₂ %
				Pitot Leak Check: Positive / Negative /
CLOCK	Traverse Point	Velocity Head	Stack	$Md = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times \%N_2)$
1141	Number	in. H ₂ O	Temp, F	$Md = (0.44 \times) + (0.32 \times) + (0.28 \times)$
1018	* /	3.2	95	Md=
1030	# 2.	3,2	98	$Ms = Md \times \left(1 - \frac{\%H_2O}{100}\right) + 18 \times \left(\frac{\%H_2O}{100}\right)$
1044		3, 3	104	1
1106	5	3./	113	$Ms = \left(\frac{1}{100} + 18 \times \left(\frac{1}{100} \right) \right)$
1122	5	3.3	116	$\int_{0}^{1} M \sin \left(\frac{1}{100} \right) + \frac{10}{100} \wedge \left(\frac{1}{100} \right)$
1139	6	3.1	120	Ms=
1159	<u>J</u> .	3.0	125	$\overline{TS} = {}^{\circ}F = {}^{\circ}R({}^{\circ}F + 460)$
1218		3./	141	SP
1237		3.0	139	$Ps = Pb + \frac{SP}{13.6} = () + \frac{13.6}{13.6}$
1256		3,0 3,2	137	$ Arr Ps = ext{in. Hg}$
1315	· · · · · · · · · · · · · · · · · · ·	3, 2	139	$\sqrt{\overline{\Delta P}} =$
1327	6	3,5	120	$Vs = 85.49 \times Cp \times \sqrt{\overline{\Delta P}} \times \sqrt{\frac{Ts(^{\circ}R)}{Ps \times Ms}}$
1426		3.3	108	$Vs = 85.49 \times Cp \times \sqrt{\Delta P} \times \sqrt{\frac{15(3)}{Ps \times Ms}}$
1436	3	3,2	114	Visited and the second
1451	3,	3,/	120	$Vs = 85.49 \times () \times () \times $
1504		3,2	125	↓
1521		3.0 3.8	130	Vs = ft/s
1517	6		158	$As = ft^2$
1558	2	2.7	126	$Qs = Vs \times As \times 60$
i	3	2/	101	$Qs = \times \times 60$
	Ÿ			Qs = acfm
	5			1 [*]
	6			$Qs_{std} = Qs \times 17.647 \times \frac{Ps}{Ts} \times \left(1 - \frac{\%H_2O}{100}\right)$
	1			$Qs_{std} = \times 17.647 \times - \times \left(1 - \frac{100}{100}\right)$
•	<i>λ</i> 3			$Qs_{std} = dscfin$
	3			C-Stu Gooding
	9			
.*	$\sqrt{\Delta P} =$	1.7613	Ts = 1	

TIME

Plant:	AK MID	DLETOWN	Date: 9/14-15/16
Samplin	g Location:	DUSHING	BAGHOUSE (STACE) Clock Time:
Run #:			Operators:
_		. Hg: <u>30</u> /	2\ Static Pressure, in.H ₂ O:
Moisture	e, %:	Molec	ular wt., Dry: Pitot Tube, Cp:
			ide 1: Side 2:
			Dry Bulb, °F: CO ₂ %
			ocouple # O ₂ %
_			Pitot Leak Check: Positive Negative
Traverse	Velocity		$Md = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times \%N_2)$
Point	Head	Stack	$Md=(0.44 \times) + (0.32 \times) + (0.28 \times)$
Number	in. H ₂ O	Temp,°F	
1	40	84	Md= / %H ₂ O\ /%H ₂ O\
2	4.6 3.9	97	$Ms = Md \times \left(1 - \frac{\%H_2O}{100}\right) + 18 \times \left(\frac{\%H_2O}{100}\right)$
3		(01	
4	3-8 3-8	104	$M_{S} = \left(\frac{1}{100} + 18 \times \left(\frac{1}{100} \right) \right)$
6	3.8	103	
7	3.8 3.9	103	Ms=
8	3.8	10%	$\overline{TS} = $ °F = °R(°F + 460)
9	3.8	106	$Ps = Pb + \frac{SP}{13.6} = () + \frac{13.6}{13.6}$
10	3.9	102	13.6 13.6 13.6 Ps = in. Hg
11	3.9	98	$\frac{PS-}{\sqrt{\Delta P}} = \frac{\text{In. Fig}}{\frac{PS-}{\Delta P}}$
12_	3 ()	100	
13	4.0	86	$Vs = 85.49 \times Cp \times \sqrt{\Delta P} \times \sqrt{\frac{Ts(^{\circ}R)}{Ps \times Ms}}$
14	3.9	94	√Ps×Ms
15	3.8		
16	3.8	102	$Vs = 85.49 \times () \times () \times $
17		99	Vs = ft/s
18	39	94	$As = ft^2$
19	3.8	94	$Qs = Vs \times As \times 60$
. 20	3.9	95	
21	4.0	92	$Qs = \times \times 60$
22	3. 9	94	Qs = acfm
27	4.0	89	$Qs_{std} = Qs \times 17.647 \times \frac{Ps}{Ts} \times \left(1 - \frac{\%H_2O}{100}\right)$
24	3.9	76	
25	4.0	92	$Qs_{std} = \times 17.647 \times {} \times \left(1 - {100}\right)$
			$Qs_{std} = dscfm$

GAS VELOCITY AND VOLUMETRIC FLOW RATE Middle tam

Date: 9-15-16

Sampling Location: Combustion Stace / Clock Time:

Run #: Operators: W

Barometric Pressure, in. Hg: 30.24 Static Pressure, in. H₂O: -1.5

Moisture, %: _____ Molecular wt., Dry: _____ Pitot Tube, Cp: _____

Stack Dimension, in. Diameter or Side 1:

Side 2:

Wet Bulb, °F: _____ CO₂ % _____

Pitot # _____ O₂ % _____

Pitot Leak Check: Positive _____ Negative ____

	Traverse	Velocity	
Time	Point	Head	Stack
Name and Personal Property lies and Publishers and	Number	in. H ₂ O	Temp,°F
1034	(4.0	<u>§5</u>
1046	54 3	3.9	98
105	59 3	3,9	101
1128	Ч	3,9 3.7	108
1138	5	3.8	110
1232	6	3.9	แอ
Ψcί	(3.9	115
124	9 B	3.7 3.8	118
125	9	3.8	(20
_		3.9	119
1319		3.9	113
133 134	12	3,7	(24
1 163	6 X13	3.9	170
143	8 214	3.9	118
1504	1 15	3.8	110
isal	X 16	3.7	(30
153	9 5 17	3.9	122
151	6 13	3.6	1/7
1/12	1 19	3.4	1/22
I DO	1 20	3.8	121
1/49	8 421	3.7	120
ון טו לרו	25 x622	3.7	121
173	2 23	3.9	118
173	C 24	3.8	21
1/3			
			1

 $\sqrt{\Delta P} =$

$Md=(0.44 \times$	$\%CO_2$) + (0.3	$32 \times \%0_2) + (0.28)$	\times %N ₂)
$Md=(0.44 \times$)+(0.3	2 ×) + (0.28	(× ×
Md=	0/11 0.	.0/II O	
$Ms=Md\times (1$	$-\frac{\%H_2O}{100}$ + 1	$8 \times \left(\frac{\% H_2 U}{100}\right)$	
Ms=($\left(1-\frac{100}{100}\right)$	$\left(\frac{100}{0}\right) + 18 \times \left(\frac{100}{100}\right)$	
Ms=		4	
$\overrightarrow{TS} =$	°F =	°R(°F + 460)	
S	Ρ.		

 $Ps = Pb + \frac{sP}{13.6} = ($ $) + \frac{}{13.6}$ Ps = in, Hg

 $Vs = 85.49 \times Cp \times \sqrt{\Delta P} \times \sqrt{\frac{Ts(^{\circ}R)}{Ps \times Ms}}$

 $Vs = 85.49 \times () \times () \times () \times ($

Vs =

Ts= \\>

ft/s ft^2

As =

 $0s = Vs \times As \times 60$

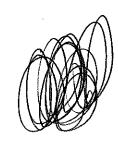
× Qs =

 \times 60

Qs = acfm

$$\begin{aligned} \text{Qs}_{std} &= \text{Qs} \times 17.647 \times \frac{\text{Ps}}{\text{Ts}} \times \left(1 - \frac{\% \text{H}_2 \text{O}}{100}\right) \\ \text{Qs}_{std} &= \times 17.647 \times ---- \times \left(1 - \frac{100}{100}\right) \end{aligned}$$

 $Qs_{std} = dscfm$



CLOCK TIME

> **4**38

GAS VELOCITY AND VOLUMETRIC FLOW RATE

	G	48 VELOU	CITY AND VOLUMETRIC FLOW RATE
Plant:	AK Midd	letown	Date: 9/15/16
Samplin	g Location:	P. Baghou	Se # 2 Clock Time:
	P-315-3		Operators: 6b
Baromet	tric Pressure, in	. Hg: <u>З</u> 0.	34 Static Pressure, in.H ₂ O:
			ular wt., Dry: Pitot Tube, Cp: 0.84
Stack Di	imension, in. D	iameter or S	ide 1: Side 2:
			Dry Bulb, °F: CO ₂ %
			ocouple # _ 7 4 - 16 _ O ₂ %
			Pitot Leak Check: Positive Negative
Traverse	Velocity		$Md = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times \%N_2)$
Point	Head	Stack	
Number	in. H ₂ O	Temp,°F	$Md = (0.44 \times) + (0.32 \times) + (0.28 \times)$
3	3,5	105	Md=
4	3.3	114	$Ms = Md \times \left(1 - \frac{\%H_2O}{100}\right) + 18 \times \left(\frac{\%H_2O}{100}\right)$
5	3, 2	123	
6	3./	118	$Ms = \left($
1	3, a	121	$\int A \left(\frac{1 - 100}{100} \right) + 18 \left(\frac{100}{100} \right)$
2	3, 2	120	Mo-
	3.3	126	$\frac{Ms}{TS} = {}^{\circ}F = {}^{\circ}R({}^{\circ}F + 460)$
3 4	3.2	127	
5	3.4	129	$Ps = Pb + \frac{SP}{13.6} = ($) + $\frac{13.6}{13.6}$
6	3, 2	132	$\begin{array}{ccc} & 13.0 & 13.0 \\ & Ps = & in. Hg \end{array}$
1	3,3	132	$\sqrt{\overline{\Delta P}} =$
Z.	3,2	124	
3	3.7	129	$Vs = 85.49 \times Cp \times \sqrt{\overline{\Delta P}} \times \sqrt{\frac{Ts(^{\circ}R)}{Ps \times Ms}}$
4	3, 3	136	√PSXMS
5	3.5	/30	$V_S = 85.49 \times () \times () \times $
6	3,2	127	4
	3.1	131	Vs = ft/s
Z	3,3	126	$As = ft^2$
3	3.2	121	$Qs = Vs \times As \times 60$
4	3.1	117	
5	3.4	123	$Qs = \times \times 60$
6	3.2	121	Qs = acfm
1	3,4	120	$QS_{std} = Qs \times 17.647 \times \frac{Ps}{Ts} \times \left(1 - \frac{\%H_2O}{100}\right)$
2			$\sqrt{2s_{std} - QS \wedge 17.047} \wedge \frac{1}{Ts} \wedge \sqrt{1 - \frac{100}{100}}$
3			$Qs_{std} = \times 17.647 \times {} \times \left(1 - {100}\right)$
4			$Qs_{std} = dscfm$
3 4 5 6 1 2 3 4 5			20stu about
6			

 $\overline{Ts} = \sqrt{2N}$

1.8043

 $\overline{\sqrt{\Delta P}} =$

TRAVERSE POINT LOCATION FOR CIRCULAR DUCTS

Plant: Alestel Moddletown Date: 8/22/16	18
Sampling Location: Combuston Stack	- 405-
Inside of Far Wall to Outside of Nipple:	_
Inside of Near Wall to Outside of Nipple (Nipple Length):	_ 57
Stack I.D.: 6 8	_
Distance Downstream from Flow Disturbance (Distance B):	
2184 Inches/Stack I.D. = 13 dd	ζ.
Distance Upstream from Flow Disturbance (Distance A):	
$\frac{672}{100}$ Inches/Stack I.D. = $\frac{56}{100}$ dd	
Calculated By: Oog Alle	Schematic of
	Sampling Location

Traverse Point Number	Fraction of Length	Length (inches)	Product of Columns 2 & 3 (To nearest 1/8")	Nipple Length (inches)	Traverse Point Location (Sum of Col. 4 & 5)
(2-16	168	3.5		
Z	6.7%	1	11.3		c
}	11.8 %		19.8		
Ч	(7,7%		42 20 29.7	•	
5	25.0%		59, 42.	0	
6	35.6%	4	59,8		
				I	
		41			